

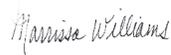
ANALYTICAL REPORT

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Laboratory Job ID: 410-65313-1
Client Project/Site: Groundwater PFAS - TO2

For:
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Chantilly, Virginia 20151-1102

Attn: Michelle Spiezio



Authorized for release by:
12/10/2021 9:20:12 AM

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Results relate only to the items tested and the sample(s) as received by the laboratory.



Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
 - Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
 - Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Marrison Williams
Project Manager
12/10/2021 9:20:12 AM



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Definitions/Glossary

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
cn	Refer to Case Narrative for further detail
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Job ID: 410-65313-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative 410-65313-1

Receipt

The samples were received on 12/2/2021 11:08 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.6°C

PFAS

Method PFC_IDA: The QC acceptance limits should be considered advisory for the following samples: SP-3 (410-65313-1), SP-4 (410-65313-2), Trip Blank (410-65313-3), SP-6 (410-65313-4), SP-7 (410-65313-5), SP-8 (410-65313-6), SP-8 (410-65313-6[MS]), SP-8 (410-65313-6[MSD]) and SP-10 (410-65313-7).

Poor recoveries for PS Acid were observed in the quality control samples associated with samples SP-3 (410-65313-1), SP-4 (410-65313-2), Trip Blank (410-65313-3), SP-6 (410-65313-4), SP-7 (410-65313-5), SP-8 (410-65313-6), SP-8 (410-65313-6[MS]), SP-8 (410-65313-6[MSD]) and SP-10 (410-65313-7). The results reported for PS Acid should be considered estimated.

The LCS/LCSD labeled isotope(s) recovery associated with samples: SP-3 (410-65313-1), SP-4 (410-65313-2), Trip Blank (410-65313-3), SP-6 (410-65313-4), SP-7 (410-65313-5), SP-8 (410-65313-6), SP-8 (410-65313-6[MS]), SP-8 (410-65313-6[MSD]) and SP-10 (410-65313-7) is outside the QC acceptance limits. Since the recovery for target analytes is within the limits, the data is reported.

Method PFC_IDA: The recovery for the labeled isotope(s) in the following samples: SP-3 (410-65313-1), Trip Blank (410-65313-3), SP-6 (410-65313-4) and SP-7 (410-65313-5) is outside the QC acceptance limits. Since the recovery is high and the native analyte is not detected in the sample, the data is reported.

Method PFC_IDA: The recovery for the labeled isotope(s) in the method blank associated with samples: SP-3 (410-65313-1), SP-4 (410-65313-2), Trip Blank (410-65313-3), SP-6 (410-65313-4), SP-7 (410-65313-5), SP-8 (410-65313-6), SP-8 (410-65313-6[MS]), SP-8 (410-65313-6[MSD]) and SP-10 (410-65313-7) is outside the QC acceptance limits. Since the recovery is high and the associated native analyte is not detected in the method blank, the data is reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-3

Lab Sample ID: 410-65313-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoro-3-methoxypropanoic acid (PMPA)	10.4	cn	1.76	0.176	ng/L	1		537 IDA	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	5.20	cn	2.64	0.440	ng/L	1		537 IDA	Total/NA
Perfluorooctanesulfonic acid	14.0	cn	1.76	0.440	ng/L	1		537 IDA	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.829	J cn	1.76	0.527	ng/L	1		537 IDA	Total/NA
Perfluoro-2-(perfluoroethoxy)propionic acid	1.92	cn	1.76	0.176	ng/L	1		537 IDA	Total/NA
Perfluoropentanoic acid	136	cn	1.76	0.440	ng/L	1		537 IDA	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.831	J cn	2.64	0.440	ng/L	1		537 IDA	Total/NA
Perfluorohexanoic acid	12.0	cn	1.76	0.440	ng/L	1		537 IDA	Total/NA
Perfluorooctanoic acid	3.11	cn	1.76	0.440	ng/L	1		537 IDA	Total/NA
Perfluorohexanesulfonic acid	4.15	cn	1.76	0.440	ng/L	1		537 IDA	Total/NA
Perfluorobutanesulfonic acid	7.58	cn	1.76	0.440	ng/L	1		537 IDA	Total/NA
Perfluoroheptanoic acid	2.94	cn	1.76	0.440	ng/L	1		537 IDA	Total/NA
Perfluoro-3-methoxypropanoic acid (PFMPA)	207	cn	1.76	0.176	ng/L	1		537 IDA	Total/NA
Perfluoropropanesulfonic acid	1.31	J cn	1.76	0.176	ng/L	1		537 IDA	Total/NA
10:2 Fluorotelomer carboxylic acid	0.648	J cn	1.76	0.440	ng/L	1		537 IDA	Total/NA
Perfluoro-2-methoxyacetic acid (PFMOAA)	5.04	cn	1.76	0.176	ng/L	1		537 IDA	Total/NA
8:2 Fluorotelomer unsaturated acid	0.486	J B cn	1.76	0.176	ng/L	1		537 IDA	Total/NA
6:2 Fluorotelomer unsaturated acid	0.191	J cn	1.76	0.176	ng/L	1		537 IDA	Total/NA
10:2 Fluorotelomer unsaturated acid	0.733	J B cn	1.76	0.176	ng/L	1		537 IDA	Total/NA
Perfluoro-4-isopropoxybutanoic acid (PFIPoBA)	0.467	J cn	1.76	0.176	ng/L	1		537 IDA	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.697	J B *- cn	1.76	0.264	ng/L	1		537 IDA	Total/NA
Perfluoro-4-methoxybutanoic acid (PFMBA)	10.3	cn	1.76	0.176	ng/L	1		537 IDA	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.368	J B cn	1.76	0.176	ng/L	1		537 IDA	Total/NA
Perfluorobutanoic acid - DL	757	cn	44.0	17.6	ng/L	10		537 IDA	Total/NA
Perfluoropropionic Acid (PFPrA) - DL	1920	cn	44.0	17.6	ng/L	10		537 IDA	Total/NA

Client Sample ID: SP-4

Lab Sample ID: 410-65313-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoro-3-methoxypropanoic acid (PMPA)	9.90	cn	1.78	0.178	ng/L	1		537 IDA	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	4.81	cn	2.67	0.446	ng/L	1		537 IDA	Total/NA
Perfluorooctanesulfonic acid	15.0	cn	1.78	0.446	ng/L	1		537 IDA	Total/NA
Perfluoro-2-(perfluoroethoxy)propionic acid	1.76	J cn	1.78	0.178	ng/L	1		537 IDA	Total/NA
Perfluoropentanoic acid	131	cn	1.78	0.446	ng/L	1		537 IDA	Total/NA
Perfluorohexanoic acid	11.3	I cn	1.78	0.446	ng/L	1		537 IDA	Total/NA
Perfluorooctanoic acid	3.05	cn	1.78	0.446	ng/L	1		537 IDA	Total/NA
Perfluorohexanesulfonic acid	4.31	cn	1.78	0.446	ng/L	1		537 IDA	Total/NA
Perfluorobutanesulfonic acid	7.71	cn	1.78	0.446	ng/L	1		537 IDA	Total/NA
Perfluoroheptanoic acid	2.92	cn	1.78	0.446	ng/L	1		537 IDA	Total/NA
Perfluoro-3-methoxypropanoic acid (PFMPA)	198	cn	1.78	0.178	ng/L	1		537 IDA	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Detection Summary

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-4 (Continued)

Lab Sample ID: 410-65313-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropropanesulfonic acid	1.32	J cn	1.78	0.178	ng/L	1		537 IDA	Total/NA
Perfluoro-2-methoxyacetic acid (PFMOAA)	5.14	cn	1.78	0.178	ng/L	1		537 IDA	Total/NA
10:2 Fluorotelemer unsaturated acid	0.318	J B cn	1.78	0.178	ng/L	1		537 IDA	Total/NA
Perfluoro-4-isopropoxybutanoic acid (PFIPBA)	0.491	J cn	1.78	0.178	ng/L	1		537 IDA	Total/NA
Perfluoro-4-methoxybutanoic acid (PFMBA)	10.2	cn	1.78	0.178	ng/L	1		537 IDA	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.183	J B cn	1.78	0.178	ng/L	1		537 IDA	Total/NA
Perfluorobutanoic acid - DL	735	cn	44.6	17.8	ng/L	10		537 IDA	Total/NA
Perfluoropropionic Acid (PFPrA) - DL	1930	cn	44.6	17.8	ng/L	10		537 IDA	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 410-65313-3

No Detections.

Client Sample ID: SP-6

Lab Sample ID: 410-65313-4

No Detections.

Client Sample ID: SP-7

Lab Sample ID: 410-65313-5

No Detections.

Client Sample ID: SP-8

Lab Sample ID: 410-65313-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoro-3-methoxypropanoic acid (PMPA)	17.1	F1 cn	1.79	0.179	ng/L	1		537 IDA	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	17.5	cn	2.68	0.447	ng/L	1		537 IDA	Total/NA
Perfluorooctanesulfonic acid	5.83	cn	1.79	0.447	ng/L	1		537 IDA	Total/NA
Perfluoro-2-(perfluoroethoxy)propionic acid	5.71	F1 cn	1.79	0.179	ng/L	1		537 IDA	Total/NA
Perfluoropentanoic acid	59.4	cn	1.79	0.447	ng/L	1		537 IDA	Total/NA
Perfluorohexanoic acid	8.77	cn	1.79	0.447	ng/L	1		537 IDA	Total/NA
Perfluorooctanoic acid	3.82	cn	1.79	0.447	ng/L	1		537 IDA	Total/NA
Perfluorohexanesulfonic acid	3.56	cn	1.79	0.447	ng/L	1		537 IDA	Total/NA
Perfluorobutanesulfonic acid	11.9	cn	1.79	0.447	ng/L	1		537 IDA	Total/NA
Perfluoroheptanoic acid	3.53	I cn	1.79	0.447	ng/L	1		537 IDA	Total/NA
Perfluoro-3-methoxypropanoic acid (PFMPA)	49.1	F1 cn	1.79	0.179	ng/L	1		537 IDA	Total/NA
Perfluoropropanesulfonic acid	2.69	F1 cn	1.79	0.179	ng/L	1		537 IDA	Total/NA
Perfluoro-2-methoxyacetic acid (PFMOAA)	5.65	cn	1.79	0.179	ng/L	1		537 IDA	Total/NA
Perfluoro-4-isopropoxybutanoic acid (PFIPBA)	1.41	J cn	1.79	0.179	ng/L	1		537 IDA	Total/NA
Perfluoro-4-methoxybutanoic acid (PFMBA)	19.8	cn	1.79	0.179	ng/L	1		537 IDA	Total/NA
Perfluorobutanoic acid - DL	1080	cn	44.7	17.9	ng/L	10		537 IDA	Total/NA
Perfluoropropionic Acid (PFPrA) - DL	1900	cn	44.7	17.9	ng/L	10		537 IDA	Total/NA

This Detection Summary does not include radiochemical test results.

Euofins Lancaster Laboratories Env, LLC

Detection Summary

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-10

Lab Sample ID: 410-65313-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoro-3-methoxypropanoic acid (PMPA)	12.8	cn	1.72	0.172	ng/L	1		537 IDA	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.49	cn	2.58	0.430	ng/L	1		537 IDA	Total/NA
Perfluorooctanesulfonic acid	0.966	J I cn	1.72	0.430	ng/L	1		537 IDA	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.730	J cn	1.72	0.516	ng/L	1		537 IDA	Total/NA
Perfluoro-2-(perfluoroethoxy)propionic acid	2.88	cn	1.72	0.172	ng/L	1		537 IDA	Total/NA
Perfluoropentanoic acid	36.6	cn	1.72	0.430	ng/L	1		537 IDA	Total/NA
8:2 Fluorotelomer carboxylic acid	0.369	J cn	1.72	0.344	ng/L	1		537 IDA	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.878	J cn	2.58	0.430	ng/L	1		537 IDA	Total/NA
Perfluorohexanoic acid	6.53	I cn	1.72	0.430	ng/L	1		537 IDA	Total/NA
Perfluorooctanoic acid	1.51	J cn	1.72	0.430	ng/L	1		537 IDA	Total/NA
Perfluorohexanesulfonic acid	1.02	J cn	1.72	0.430	ng/L	1		537 IDA	Total/NA
Perfluorobutanesulfonic acid	8.75	cn	1.72	0.430	ng/L	1		537 IDA	Total/NA
Perfluoro-3-methoxypropanoic acid (PFMPA)	33.0	cn	1.72	0.172	ng/L	1		537 IDA	Total/NA
Perfluoropropanesulfonic acid	1.90	cn	1.72	0.172	ng/L	1		537 IDA	Total/NA
10:2 Fluorotelomer carboxylic acid	0.557	J cn	1.72	0.430	ng/L	1		537 IDA	Total/NA
Perfluoro-2-methoxyacetic acid (PFMOAA)	4.68	cn	1.72	0.172	ng/L	1		537 IDA	Total/NA
8:2 Fluorotelemer unsaturated acid	0.523	J B cn	1.72	0.172	ng/L	1		537 IDA	Total/NA
6:2 Fluorotelemer unsaturated acid	0.246	J cn	1.72	0.172	ng/L	1		537 IDA	Total/NA
10:2 Fluorotelemer unsaturated acid	0.702	J B cn	1.72	0.172	ng/L	1		537 IDA	Total/NA
Perfluoro-4-isopropoxybutanoic acid (PFIPrOBA)	0.778	J cn	1.72	0.172	ng/L	1		537 IDA	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.622	J B *- cn	1.72	0.258	ng/L	1		537 IDA	Total/NA
Perfluoro-4-methoxybutanoic acid (PFMBA)	10.1	cn	1.72	0.172	ng/L	1		537 IDA	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.627	J B cn	1.72	0.172	ng/L	1		537 IDA	Total/NA
Perfluorobutanoic acid - DL	881	cn	43.0	17.2	ng/L	10		537 IDA	Total/NA
Perfluoropropionic Acid (PFPrA) - DL	1340	cn	43.0	17.2	ng/L	10		537 IDA	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-3

Lab Sample ID: 410-65313-1

Date Collected: 11/30/21 13:50

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NVHOS	<0.176	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoro (2-ethoxyethane) sulfonic acid	<0.176	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	<0.879	cn	4.40	0.879	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoro-3-methoxypropanoic acid (PMPA)	10.4	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	5.20	cn	2.64	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoro-4-ethylcyclohexanesulfonic acid	<0.176	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.176	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorooctadecanoic acid	<0.879	cn	2.64	0.879	ng/L		12/05/21 08:06	12/07/21 18:44	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<0.879	cn	2.64	0.879	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorooctanesulfonic acid	14.0	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoroundecanoic acid	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.829	J cn	1.76	0.527	ng/L		12/05/21 08:06	12/07/21 18:44	1
R-PSDA	<0.440	*- cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Hydrolyzed PSDA	<0.352	*- cn	1.76	0.352	ng/L		12/05/21 08:06	12/07/21 18:44	1
R-PSDCA	<0.176	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
R-EVE	<0.352	*- cn	1.76	0.352	ng/L		12/05/21 08:06	12/07/21 18:44	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<0.879	cn	2.64	0.879	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoro-2-(perfluoroethoxy)propionic acid	1.92	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoropentanoic acid	136	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoropentanesulfonic acid	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
6:2 Fluorotelomer sulfonic acid	<1.76	cn	4.40	1.76	ng/L		12/05/21 08:06	12/07/21 18:44	1
8:2 Fluorotelomer carboxylic acid	<0.352	cn	1.76	0.352	ng/L		12/05/21 08:06	12/07/21 18:44	1
Nafion Byproduct 1 (Nafion BP1)	<2.64	*- cn	8.79	2.64	ng/L		12/05/21 08:06	12/07/21 18:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.831	J cn	2.64	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorohexanoic acid	12.0	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorododecanoic acid	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<0.879	cn	2.64	0.879	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorooctanoic acid	3.11	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorodecanoic acid	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorodecanesulfonic acid	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorohexanesulfonic acid	4.15	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<0.264	cn	1.76	0.264	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorobutanesulfonic acid	7.58	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoroheptanoic acid	2.94	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoroheptanesulfonic acid	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorononanoic acid	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorotetradecanoic acid	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	207	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
8:2 Fluorotelomer sulfonic acid	<0.879	cn	2.64	0.879	ng/L		12/05/21 08:06	12/07/21 18:44	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-3

Lab Sample ID: 410-65313-1

Date Collected: 11/30/21 13:50

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro(3,5-dioxahexanoic) acid (PFO2HxA)	<0.176	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoro(3,5,7-trioxaoctanoic) acid (PFO3OA)	<0.176	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA)	<0.264	cn	1.76	0.264	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	<1.76	cn	4.40	1.76	ng/L		12/05/21 08:06	12/07/21 18:44	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<0.879	cn	4.40	0.879	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoropropanesulfonic acid	1.31	J cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
6:2 Fluorotelomer carboxylic acid	<0.352	cn	1.76	0.352	ng/L		12/05/21 08:06	12/07/21 18:44	1
10:2 Fluorotelomer carboxylic acid	0.648	J cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoro-2-methoxyacetic acid (PFMOAA)	5.04	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorohexadecanoic acid	<0.879	cn	2.64	0.879	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorononanesulfonic acid	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
EVE Acid	<2.64	*- cn	8.79	2.64	ng/L		12/05/21 08:06	12/07/21 18:44	1
8:2 Fluorotelemer unsaturated acid	0.486	J B cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
6:2 Fluorotelemer unsaturated acid	0.191	J cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
10:2 Fluorotelemer unsaturated acid	0.733	J B cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorotridecanoic acid	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Hydro-PS Acid	<0.176	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorooctanesulfonamide	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
4:2 Fluorotelomer sulfonic acid	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Hydro-EVE Acid	<0.176	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluorododecanesulfonic acid	<0.440	cn	2.64	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoro-4-isopropoxybutanoic acid (PFIPBA)	0.467	J cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.697	J B *- cn	1.76	0.264	ng/L		12/05/21 08:06	12/07/21 18:44	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	10.3	cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.368	J B cn	1.76	0.176	ng/L		12/05/21 08:06	12/07/21 18:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.440	cn	1.76	0.440	ng/L		12/05/21 08:06	12/07/21 18:44	1
MTP	<1.76	cn	4.40	1.76	ng/L		12/05/21 08:06	12/07/21 18:44	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	99	cn	37 - 164				12/05/21 08:06	12/07/21 18:44	1
d3-NMeFOSAA	93	cn	32 - 151				12/05/21 08:06	12/07/21 18:44	1
13C3 HFPO-DA	118	cn	20 - 153				12/05/21 08:06	12/07/21 18:44	1
d7-N-MeFOSE-M	103	cn	10 - 143				12/05/21 08:06	12/07/21 18:44	1
d9-N-EtFOSE-M	104	cn	10 - 142				12/05/21 08:06	12/07/21 18:44	1
M2-6:2 FTS	92	cn	29 - 189				12/05/21 08:06	12/07/21 18:44	1

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-3

Lab Sample ID: 410-65313-1

Date Collected: 11/30/21 13:50

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	103	cn	34 - 182	12/05/21 08:06	12/07/21 18:44	1
13C3 PFBS	137	cn	19 - 178	12/05/21 08:06	12/07/21 18:44	1
M2-4:2 FTS	115	cn	20 - 187	12/05/21 08:06	12/07/21 18:44	1
13C5 PFHxA	107	cn	31 - 142	12/05/21 08:06	12/07/21 18:44	1
13C9 PFNA	108	cn	47 - 136	12/05/21 08:06	12/07/21 18:44	1
13C6 PFDA	103	cn	47 - 128	12/05/21 08:06	12/07/21 18:44	1
13C7 PFUnA	101	cn	40 - 135	12/05/21 08:06	12/07/21 18:44	1
13C3 PFHxS	105	cn	32 - 145	12/05/21 08:06	12/07/21 18:44	1
13C2-PFDoDA	93	cn	28 - 136	12/05/21 08:06	12/07/21 18:44	1
d5-NEtPFOSA	73	cn	10 - 108	12/05/21 08:06	12/07/21 18:44	1
d3-NMePFOSA	73	cn	10 - 107	12/05/21 08:06	12/07/21 18:44	1
13C2-2-Perfluorohexylethanoic acid	159	*5+ cn	50 - 150	12/05/21 08:06	12/07/21 18:44	1
13C2-2-Perfluorooctylethanoic acid	147	cn	50 - 150	12/05/21 08:06	12/07/21 18:44	1
13C2-2-Perfluorodecylethanoic acid	138	cn	50 - 150	12/05/21 08:06	12/07/21 18:44	1
13C2-2H-Perfluoro-2-octenoic acid	81	cn	50 - 150	12/05/21 08:06	12/07/21 18:44	1
13C2-2H-Perfluoro-2-decenoic acid	83	cn	50 - 150	12/05/21 08:06	12/07/21 18:44	1
13C2-2H-Perfluoro-2-dodecenoic acid	74	cn	50 - 150	12/05/21 08:06	12/07/21 18:44	1
13C4 PFBA	104	cn	41 - 132	12/05/21 08:06	12/07/21 18:44	1
13C5 PFPeA	127	cn	33 - 155	12/05/21 08:06	12/07/21 18:44	1
13C4 PFHpA	105	cn	30 - 144	12/05/21 08:06	12/07/21 18:44	1
13C8 PFOA	107	cn	49 - 127	12/05/21 08:06	12/07/21 18:44	1
13C8 PFOS	102	cn	49 - 126	12/05/21 08:06	12/07/21 18:44	1
13C8 FOSA	107	cn	10 - 143	12/05/21 08:06	12/07/21 18:44	1
13C2 PFTeDA	93	cn	10 - 144	12/05/21 08:06	12/07/21 18:44	1

Method: 537 IDA - EPA 537 Isotope Dilution - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	757	cn	44.0	17.6	ng/L		12/05/21 08:06	12/09/21 08:46	10
Perfluoropropionic Acid (PFPrA)	1920	cn	44.0	17.6	ng/L		12/05/21 08:06	12/09/21 08:46	10
Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
13C4 PFBA	90	cn	41 - 132	12/05/21 08:06	12/09/21 08:46	10			

Client Sample ID: SP-4

Lab Sample ID: 410-65313-2

Date Collected: 11/30/21 13:50

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NVHOS	<0.178	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoro (2-ethoxyethane) sulfonic acid	<0.178	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	<0.891	cn	4.46	0.891	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoro-3-methoxypropanoic acid (PMPA)	9.90	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	4.81	cn	2.67	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoro-4-ethylcyclohexanesulfonic acid	<0.178	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<0.178	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-4

Lab Sample ID: 410-65313-2

Date Collected: 11/30/21 13:50

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctadecanoic acid	<0.891	cn	2.67	0.891	ng/L		12/05/21 08:06	12/07/21 18:55	1
N-ethylperfluorooctane sulfonamidoethanol (NETFOSE)	<0.891	cn	2.67	0.891	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorooctanesulfonic acid	15.0	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoroundecanoic acid	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.535	cn	1.78	0.535	ng/L		12/05/21 08:06	12/07/21 18:55	1
R-PSDA	<0.446	*- cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Hydrolyzed PSDA	<0.357	*- cn	1.78	0.357	ng/L		12/05/21 08:06	12/07/21 18:55	1
R-PSDCA	<0.178	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
R-EVE	<0.357	*- cn	1.78	0.357	ng/L		12/05/21 08:06	12/07/21 18:55	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<0.891	cn	2.67	0.891	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoro-2-(perfluoroethoxy)propionic acid	1.76	J cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoropentanoic acid	131	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoropentanesulfonic acid	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
6:2 Fluorotelomer sulfonic acid	<1.78	cn	4.46	1.78	ng/L		12/05/21 08:06	12/07/21 18:55	1
8:2 Fluorotelomer carboxylic acid	<0.357	cn	1.78	0.357	ng/L		12/05/21 08:06	12/07/21 18:55	1
Nafion Byproduct 1 (Nafion BP1)	<2.67	*- cn	8.91	2.67	ng/L		12/05/21 08:06	12/07/21 18:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NETFOSAA)	<0.446	cn	2.67	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorohexanoic acid	11.3	I cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorododecanoic acid	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<0.891	cn	2.67	0.891	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorooctanoic acid	3.05	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorodecanoic acid	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorodecanesulfonic acid	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorohexanesulfonic acid	4.31	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<0.267	cn	1.78	0.267	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorobutanesulfonic acid	7.71	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoroheptanoic acid	2.92	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoroheptanesulfonic acid	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorononanoic acid	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorotetradecanoic acid	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	198	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
8:2 Fluorotelomer sulfonic acid	<0.891	cn	2.67	0.891	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoro(3,5-dioxahexanoic) acid (PFO2HxA)	<0.178	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoro(3,5,7-trioxaoctanoic) acid (PFO3OA)	<0.178	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA)	<0.267	cn	1.78	0.267	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	<1.78	cn	4.46	1.78	ng/L		12/05/21 08:06	12/07/21 18:55	1
N-ethylperfluorooctane sulfonamide (NETFOSA)	<0.891	cn	4.46	0.891	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoropropanesulfonic acid	1.32	J cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
6:2 Fluorotelomer carboxylic acid	<0.357	cn	1.78	0.357	ng/L		12/05/21 08:06	12/07/21 18:55	1
10:2 Fluorotelomer carboxylic acid	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-4

Lab Sample ID: 410-65313-2

Date Collected: 11/30/21 13:50

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-2-methoxyacetic acid (PFMOAA)	5.14	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorohexadecanoic acid	<0.891	cn	2.67	0.891	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorononanesulfonic acid	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
EVE Acid	<2.67	*- cn	8.91	2.67	ng/L		12/05/21 08:06	12/07/21 18:55	1
8:2 Fluorotelemer unsaturated acid	<0.178	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
6:2 Fluorotelemer unsaturated acid	<0.178	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
10:2 Fluorotelemer unsaturated acid	0.318	J B cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorotridecanoic acid	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Hydro-PS Acid	<0.178	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorooctanesulfonamide	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
4:2 Fluorotelomer sulfonic acid	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Hydro-EVE Acid	<0.178	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluorododecanesulfonic acid	<0.446	cn	2.67	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoro-4-isopropoxybutanoic acid (PFIPBA)	0.491	J cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<0.267	*- cn	1.78	0.267	ng/L		12/05/21 08:06	12/07/21 18:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	10.2	cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.183	J B cn	1.78	0.178	ng/L		12/05/21 08:06	12/07/21 18:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.446	cn	1.78	0.446	ng/L		12/05/21 08:06	12/07/21 18:55	1
MTP	<1.78	cn	4.46	1.78	ng/L		12/05/21 08:06	12/07/21 18:55	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	85	cn	37 - 164				12/05/21 08:06	12/07/21 18:55	1
d3-NMeFOSAA	80	cn	32 - 151				12/05/21 08:06	12/07/21 18:55	1
13C3 HFPO-DA	110	cn	20 - 153				12/05/21 08:06	12/07/21 18:55	1
d7-N-MeFOSE-M	79	cn	10 - 143				12/05/21 08:06	12/07/21 18:55	1
d9-N-EtFOSE-M	78	cn	10 - 142				12/05/21 08:06	12/07/21 18:55	1
M2-6:2 FTS	86	cn	29 - 189				12/05/21 08:06	12/07/21 18:55	1
M2-8:2 FTS	87	cn	34 - 182				12/05/21 08:06	12/07/21 18:55	1
13C3 PFBS	119	cn	19 - 178				12/05/21 08:06	12/07/21 18:55	1
M2-4:2 FTS	102	cn	20 - 187				12/05/21 08:06	12/07/21 18:55	1
13C5 PFHxA	93	cn	31 - 142				12/05/21 08:06	12/07/21 18:55	1
13C9 PFNA	93	cn	47 - 136				12/05/21 08:06	12/07/21 18:55	1
13C6 PFDA	90	cn	47 - 128				12/05/21 08:06	12/07/21 18:55	1
13C7 PFOUnA	88	cn	40 - 135				12/05/21 08:06	12/07/21 18:55	1
13C3 PFHxS	93	cn	32 - 145				12/05/21 08:06	12/07/21 18:55	1
13C2-PFDoDA	71	cn	28 - 136				12/05/21 08:06	12/07/21 18:55	1
d5-NEtPFOSA	56	cn	10 - 108				12/05/21 08:06	12/07/21 18:55	1
d3-NMePFOSA	57	cn	10 - 107				12/05/21 08:06	12/07/21 18:55	1
13C2-2-Perfluorohexylethanoic acid	133	cn	50 - 150				12/05/21 08:06	12/07/21 18:55	1
13C2-2-Perfluorooctylethanoic acid	118	cn	50 - 150				12/05/21 08:06	12/07/21 18:55	1
13C2-2-Perfluorodecylethanoic acid	105	cn	50 - 150				12/05/21 08:06	12/07/21 18:55	1

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-4

Lab Sample ID: 410-65313-2

Date Collected: 11/30/21 13:50

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-2H-Perfluoro-2-octenoic acid	73	cn	50 - 150	12/05/21 08:06	12/07/21 18:55	1
13C2-2H-Perfluoro-2-decenoic acid	69	cn	50 - 150	12/05/21 08:06	12/07/21 18:55	1
13C2-2H-Perfluoro-2-dodecenoic acid	61	cn	50 - 150	12/05/21 08:06	12/07/21 18:55	1
13C4 PFBA	92	cn	41 - 132	12/05/21 08:06	12/07/21 18:55	1
13C5 PFPeA	111	cn	33 - 155	12/05/21 08:06	12/07/21 18:55	1
13C4 PFHpA	95	cn	30 - 144	12/05/21 08:06	12/07/21 18:55	1
13C8 PFOA	92	cn	49 - 127	12/05/21 08:06	12/07/21 18:55	1
13C8 PFOS	89	cn	49 - 126	12/05/21 08:06	12/07/21 18:55	1
13C8 FOSA	90	cn	10 - 143	12/05/21 08:06	12/07/21 18:55	1
13C2 PFTeDA	72	cn	10 - 144	12/05/21 08:06	12/07/21 18:55	1

Method: 537 IDA - EPA 537 Isotope Dilution - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	735	cn	44.6	17.8	ng/L		12/05/21 08:06	12/09/21 08:57	10
Perfluoropropionic Acid (PFPrA)	1930	cn	44.6	17.8	ng/L		12/05/21 08:06	12/09/21 08:57	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92	cn	41 - 132	12/05/21 08:06	12/09/21 08:57	10

Client Sample ID: Trip Blank

Lab Sample ID: 410-65313-3

Date Collected: 12/01/21 18:00

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NVHOS	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoro (2-ethoxyethane) sulfonic acid	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	<0.855	cn	4.27	0.855	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoro-3-methoxypropanoic acid (PMPA)	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.427	cn	2.56	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoro-4-ethylcyclohexanesulfonic acid	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorooctadecanoic acid	<0.855	cn	2.56	0.855	ng/L		12/05/21 08:06	12/07/21 19:06	1
N-ethylperfluorooctane sulfonamidoethanol (NETFOSE)	<0.855	cn	2.56	0.855	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorooctanesulfonic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoroundecanoic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.513	cn	1.71	0.513	ng/L		12/05/21 08:06	12/07/21 19:06	1
R-PSDA	<0.427	*- cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Hydrolyzed PSDA	<0.342	*- cn	1.71	0.342	ng/L		12/05/21 08:06	12/07/21 19:06	1
R-PSDCA	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
R-EVE	<0.342	*- cn	1.71	0.342	ng/L		12/05/21 08:06	12/07/21 19:06	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<0.855	cn	2.56	0.855	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoro-2-(perfluoroethoxy)propionic acid	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1

Euofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: Trip Blank

Lab Sample ID: 410-65313-3

Date Collected: 12/01/21 18:00

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoropentanesulfonic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
6:2 Fluorotelomer sulfonic acid	<1.71	cn	4.27	1.71	ng/L		12/05/21 08:06	12/07/21 19:06	1
8:2 Fluorotelomer carboxylic acid	<0.342	cn	1.71	0.342	ng/L		12/05/21 08:06	12/07/21 19:06	1
Nafion Byproduct 1 (Nafion BP1)	<2.56	*- cn	8.55	2.56	ng/L		12/05/21 08:06	12/07/21 19:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.427	cn	2.56	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorohexanoic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorododecanoic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<0.855	cn	2.56	0.855	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorooctanoic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorodecanoic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorodecanesulfonic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorohexanesulfonic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<0.256	cn	1.71	0.256	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorobutanoic acid	<1.71	cn	4.27	1.71	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorobutanesulfonic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoroheptanoic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoroheptanesulfonic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorononanoic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorotetradecanoic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
8:2 Fluorotelomer sulfonic acid	<0.855	cn	2.56	0.855	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoro(3,5-dioxahexanoic) acid (PFO2HxA)	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoro(3,5,7-trioxaoctanoic) acid (PFO3OA)	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA)	<0.256	cn	1.71	0.256	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	<1.71	cn	4.27	1.71	ng/L		12/05/21 08:06	12/07/21 19:06	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<0.855	cn	4.27	0.855	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoropropionic Acid (PFPrA)	<1.71	cn	4.27	1.71	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoropropanesulfonic acid	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
6:2 Fluorotelomer carboxylic acid	<0.342	cn	1.71	0.342	ng/L		12/05/21 08:06	12/07/21 19:06	1
10:2 Fluorotelomer carboxylic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoro-2-methoxyacetic acid (PFMOAA)	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorohexadecanoic acid	<0.855	cn	2.56	0.855	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorononanesulfonic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
EVE Acid	<2.56	*- cn	8.55	2.56	ng/L		12/05/21 08:06	12/07/21 19:06	1
8:2 Fluorotelemer unsaturated acid	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
6:2 Fluorotelemer unsaturated acid	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
10:2 Fluorotelemer unsaturated acid	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorotridecanoic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Hydro-PS Acid	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorooctanesulfonamide	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: Trip Blank

Lab Sample ID: 410-65313-3

Date Collected: 12/01/21 18:00

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
4:2 Fluorotelomer sulfonic acid	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Hydro-EVE Acid	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluorododecanesulfonic acid	<0.427	cn	2.56	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoro-4-isopropoxybutanoic acid (PFIPBA)	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<0.256	*- cn	1.71	0.256	ng/L		12/05/21 08:06	12/07/21 19:06	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<0.171	cn	1.71	0.171	ng/L		12/05/21 08:06	12/07/21 19:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.427	cn	1.71	0.427	ng/L		12/05/21 08:06	12/07/21 19:06	1
MTP	<1.71	cn	4.27	1.71	ng/L		12/05/21 08:06	12/07/21 19:06	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	97	cn	37 - 164				12/05/21 08:06	12/07/21 19:06	1
d3-NMeFOSAA	92	cn	32 - 151				12/05/21 08:06	12/07/21 19:06	1
13C3 HFPO-DA	120	cn	20 - 153				12/05/21 08:06	12/07/21 19:06	1
d7-N-MeFOSE-M	103	cn	10 - 143				12/05/21 08:06	12/07/21 19:06	1
d9-N-EtFOSE-M	107	cn	10 - 142				12/05/21 08:06	12/07/21 19:06	1
M2-6:2 FTS	90	cn	29 - 189				12/05/21 08:06	12/07/21 19:06	1
M2-8:2 FTS	97	cn	34 - 182				12/05/21 08:06	12/07/21 19:06	1
13C3 PFBS	110	cn	19 - 178				12/05/21 08:06	12/07/21 19:06	1
M2-4:2 FTS	107	cn	20 - 187				12/05/21 08:06	12/07/21 19:06	1
13C5 PFHxA	106	cn	31 - 142				12/05/21 08:06	12/07/21 19:06	1
13C9 PFNA	109	cn	47 - 136				12/05/21 08:06	12/07/21 19:06	1
13C6 PFDA	101	cn	47 - 128				12/05/21 08:06	12/07/21 19:06	1
13C7 PFUnA	98	cn	40 - 135				12/05/21 08:06	12/07/21 19:06	1
13C3 PFHxS	105	cn	32 - 145				12/05/21 08:06	12/07/21 19:06	1
13C2-PFDoDA	95	cn	28 - 136				12/05/21 08:06	12/07/21 19:06	1
d5-NEtPFOSA	87	cn	10 - 108				12/05/21 08:06	12/07/21 19:06	1
d3-NMePFOSA	85	cn	10 - 107				12/05/21 08:06	12/07/21 19:06	1
13C2-2-Perfluorohexylethanoic acid	154	*5+ cn	50 - 150				12/05/21 08:06	12/07/21 19:06	1
13C2-2-Perfluorooctylethanoic acid	131	cn	50 - 150				12/05/21 08:06	12/07/21 19:06	1
13C2-2-Perfluorodecylethanoic acid	140	cn	50 - 150				12/05/21 08:06	12/07/21 19:06	1
13C2-2H-Perfluoro-2-octenoic acid	82	cn	50 - 150				12/05/21 08:06	12/07/21 19:06	1
13C2-2H-Perfluoro-2-decenoic acid	75	cn	50 - 150				12/05/21 08:06	12/07/21 19:06	1
13C2-2H-Perfluoro-2-dodecenoic acid	76	cn	50 - 150				12/05/21 08:06	12/07/21 19:06	1
13C4 PFBA	103	cn	41 - 132				12/05/21 08:06	12/07/21 19:06	1
13C5 PFPeA	101	cn	33 - 155				12/05/21 08:06	12/07/21 19:06	1
13C4 PFHpA	108	cn	30 - 144				12/05/21 08:06	12/07/21 19:06	1
13C8 PFOA	107	cn	49 - 127				12/05/21 08:06	12/07/21 19:06	1
13C8 PFOS	106	cn	49 - 126				12/05/21 08:06	12/07/21 19:06	1
13C8 FOSA	92	cn	10 - 143				12/05/21 08:06	12/07/21 19:06	1
13C2 PFTeDA	100	cn	10 - 144				12/05/21 08:06	12/07/21 19:06	1

Client Sample Results

Client: Eastern Research Group, Inc.
 Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-6

Lab Sample ID: 410-65313-4

Date Collected: 12/01/21 10:10

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NVHOS	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoro (2-ethoxyethane) sulfonic acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	<0.893	cn	4.47	0.893	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoro-3-methoxypropanoic acid (PMPA)	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.447	cn	2.68	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoro-4-ethylcyclohexanesulfonic acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorooctadecanoic acid	<0.893	cn	2.68	0.893	ng/L		12/05/21 08:06	12/07/21 19:17	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<0.893	cn	2.68	0.893	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorooctanesulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoroundecanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.536	cn	1.79	0.536	ng/L		12/05/21 08:06	12/07/21 19:17	1
R-PSDA	<0.447	*- cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Hydrolyzed PSDA	<0.357	*- cn	1.79	0.357	ng/L		12/05/21 08:06	12/07/21 19:17	1
R-PSDCA	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
R-EVE	<0.357	*- cn	1.79	0.357	ng/L		12/05/21 08:06	12/07/21 19:17	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<0.893	cn	2.68	0.893	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoro-2-(perfluoroethoxy)propionic acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoropentanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoropentanesulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
6:2 Fluorotelomer sulfonic acid	<1.79	cn	4.47	1.79	ng/L		12/05/21 08:06	12/07/21 19:17	1
8:2 Fluorotelomer carboxylic acid	<0.357	cn	1.79	0.357	ng/L		12/05/21 08:06	12/07/21 19:17	1
Nafion Byproduct 1 (Nafion BP1)	<2.68	*- cn	8.93	2.68	ng/L		12/05/21 08:06	12/07/21 19:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.447	cn	2.68	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorohexanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorododecanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<0.893	cn	2.68	0.893	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorooctanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorodecanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorodecanesulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorohexanesulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<0.268	cn	1.79	0.268	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorobutanoic acid	<1.79	cn	4.47	1.79	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorobutanesulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoroheptanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoroheptanesulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorononanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorotetradecanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-6

Lab Sample ID: 410-65313-4

Date Collected: 12/01/21 10:10

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 Fluorotelomer sulfonic acid	<0.893	cn	2.68	0.893	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoro(3,5-dioxahexanoic) acid (PFO2HxA)	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoro(3,5,7-trioxaoctanoic) acid (PFO3OA)	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA)	<0.268	cn	1.79	0.268	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	<1.79	cn	4.47	1.79	ng/L		12/05/21 08:06	12/07/21 19:17	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<0.893	cn	4.47	0.893	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoropropionic Acid (PFPrA)	<1.79	cn	4.47	1.79	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoropropanesulfonic acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
6:2 Fluorotelomer carboxylic acid	<0.357	cn	1.79	0.357	ng/L		12/05/21 08:06	12/07/21 19:17	1
10:2 Fluorotelomer carboxylic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoro-2-methoxyacetic acid (PFMOAA)	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorohexadecanoic acid	<0.893	cn	2.68	0.893	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorononanesulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
EVE Acid	<2.68	*- cn	8.93	2.68	ng/L		12/05/21 08:06	12/07/21 19:17	1
8:2 Fluorotelemer unsaturated acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
6:2 Fluorotelemer unsaturated acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
10:2 Fluorotelemer unsaturated acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorotridecanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Hydro-PS Acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorooctanesulfonamide	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
4:2 Fluorotelomer sulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Hydro-EVE Acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluorododecanesulfonic acid	<0.447	cn	2.68	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoro-4-isopropoxybutanoic acid (PFIpOBA)	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<0.268	*- cn	1.79	0.268	ng/L		12/05/21 08:06	12/07/21 19:17	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:17	1
MTP	<1.79	cn	4.47	1.79	ng/L		12/05/21 08:06	12/07/21 19:17	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	101	cn	37 - 164				12/05/21 08:06	12/07/21 19:17	1
d3-NMeFOSAA	89	cn	32 - 151				12/05/21 08:06	12/07/21 19:17	1
13C3 HFPO-DA	119	cn	20 - 153				12/05/21 08:06	12/07/21 19:17	1
d7-N-MeFOSE-M	102	cn	10 - 143				12/05/21 08:06	12/07/21 19:17	1
d9-N-EtFOSE-M	107	cn	10 - 142				12/05/21 08:06	12/07/21 19:17	1
M2-6:2 FTS	88	cn	29 - 189				12/05/21 08:06	12/07/21 19:17	1
M2-8:2 FTS	100	cn	34 - 182				12/05/21 08:06	12/07/21 19:17	1

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-6

Lab Sample ID: 410-65313-4

Date Collected: 12/01/21 10:10

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	103	cn	19 - 178	12/05/21 08:06	12/07/21 19:17	1
M2-4:2 FTS	101	cn	20 - 187	12/05/21 08:06	12/07/21 19:17	1
13C5 PFHxA	106	cn	31 - 142	12/05/21 08:06	12/07/21 19:17	1
13C9 PFNA	102	cn	47 - 136	12/05/21 08:06	12/07/21 19:17	1
13C6 PFDA	101	cn	47 - 128	12/05/21 08:06	12/07/21 19:17	1
13C7 PFUnA	97	cn	40 - 135	12/05/21 08:06	12/07/21 19:17	1
13C3 PFHxS	103	cn	32 - 145	12/05/21 08:06	12/07/21 19:17	1
13C2-PFDoDA	92	cn	28 - 136	12/05/21 08:06	12/07/21 19:17	1
d5-NEtPFOSA	84	cn	10 - 108	12/05/21 08:06	12/07/21 19:17	1
d3-NMePFOSA	80	cn	10 - 107	12/05/21 08:06	12/07/21 19:17	1
13C2-2-Perfluorohexylethanoic acid	151	*5+ cn	50 - 150	12/05/21 08:06	12/07/21 19:17	1
13C2-2-Perfluorooctylethanoic acid	137	cn	50 - 150	12/05/21 08:06	12/07/21 19:17	1
13C2-2-Perfluorodecylethanoic acid	125	cn	50 - 150	12/05/21 08:06	12/07/21 19:17	1
13C2-2H-Perfluoro-2-octenoic acid	75	cn	50 - 150	12/05/21 08:06	12/07/21 19:17	1
13C2-2H-Perfluoro-2-decenoic acid	77	cn	50 - 150	12/05/21 08:06	12/07/21 19:17	1
13C2-2H-Perfluoro-2-dodecenoic acid	74	cn	50 - 150	12/05/21 08:06	12/07/21 19:17	1
13C4 PFBA	98	cn	41 - 132	12/05/21 08:06	12/07/21 19:17	1
13C5 PFPeA	99	cn	33 - 155	12/05/21 08:06	12/07/21 19:17	1
13C4 PFHpA	103	cn	30 - 144	12/05/21 08:06	12/07/21 19:17	1
13C8 PFOA	97	cn	49 - 127	12/05/21 08:06	12/07/21 19:17	1
13C8 PFOS	99	cn	49 - 126	12/05/21 08:06	12/07/21 19:17	1
13C8 FOSA	97	cn	10 - 143	12/05/21 08:06	12/07/21 19:17	1
13C2 PFTeDA	93	cn	10 - 144	12/05/21 08:06	12/07/21 19:17	1

Client Sample ID: SP-7

Lab Sample ID: 410-65313-5

Date Collected: 12/01/21 10:40

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NVHOS	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoro (2-ethoxyethane) sulfonic acid	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	<0.937	cn	4.69	0.937	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoro-3-methoxypropanoic acid (PMPA)	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.469	cn	2.81	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoro-4-ethylcyclohexanesulfonic acid	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorooctadecanoic acid	<0.937	cn	2.81	0.937	ng/L		12/05/21 08:06	12/07/21 19:28	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<0.937	cn	2.81	0.937	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorooctanesulfonic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoroundecanoic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.562	cn	1.87	0.562	ng/L		12/05/21 08:06	12/07/21 19:28	1
R-PSDA	<0.469	*- cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1

Eurofins Lancaster Laboratories Env, LLC

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-7

Lab Sample ID: 410-65313-5

Date Collected: 12/01/21 10:40

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hydrolyzed PSDA	<0.375	*- cn	1.87	0.375	ng/L		12/05/21 08:06	12/07/21 19:28	1
R-PSDCA	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
R-EVE	<0.375	*- cn	1.87	0.375	ng/L		12/05/21 08:06	12/07/21 19:28	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<0.937	cn	2.81	0.937	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoro-2-(perfluoroethoxy)propionic acid	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoropentanoic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoropentanesulfonic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
6:2 Fluorotelomer sulfonic acid	<1.87	cn	4.69	1.87	ng/L		12/05/21 08:06	12/07/21 19:28	1
8:2 Fluorotelomer carboxylic acid	<0.375	cn	1.87	0.375	ng/L		12/05/21 08:06	12/07/21 19:28	1
Nafion Byproduct 1 (Nafion BP1)	<2.81	*- cn	9.37	2.81	ng/L		12/05/21 08:06	12/07/21 19:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.469	cn	2.81	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorohexanoic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorododecanoic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<0.937	cn	2.81	0.937	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorooctanoic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorodecanoic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorodecanesulfonic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorohexanesulfonic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<0.281	cn	1.87	0.281	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorobutanoic acid	<1.87	cn	4.69	1.87	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorobutanesulfonic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoroheptanoic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoroheptanesulfonic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorononanoic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorotetradecanoic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
8:2 Fluorotelomer sulfonic acid	<0.937	cn	2.81	0.937	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoro(3,5-dioxahexanoic) acid (PFO2HxA)	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoro(3,5,7-trioxaoctanoic) acid (PFO3OA)	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA)	<0.281	cn	1.87	0.281	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	<1.87	cn	4.69	1.87	ng/L		12/05/21 08:06	12/07/21 19:28	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<0.937	cn	4.69	0.937	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoropropionic Acid (PFPrA)	<1.87	cn	4.69	1.87	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoropropanesulfonic acid	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
6:2 Fluorotelomer carboxylic acid	<0.375	cn	1.87	0.375	ng/L		12/05/21 08:06	12/07/21 19:28	1
10:2 Fluorotelomer carboxylic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoro-2-methoxyacetic acid (PFMOAA)	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorohexadecanoic acid	<0.937	cn	2.81	0.937	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorononanesulfonic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
EVE Acid	<2.81	*- cn	9.37	2.81	ng/L		12/05/21 08:06	12/07/21 19:28	1

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-7

Lab Sample ID: 410-65313-5

Date Collected: 12/01/21 10:40

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 Fluorotelemer unsaturated acid	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
6:2 Fluorotelemer unsaturated acid	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
10:2 Fluorotelemer unsaturated acid	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorotridecanoic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Hydro-PS Acid	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorooctanesulfonamide	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
4:2 Fluorotelomer sulfonic acid	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Hydro-EVE Acid	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluorododecanesulfonic acid	<0.469	cn	2.81	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoro-4-isopropoxybutanoic acid (PFIPoBA)	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<0.281	*- cn	1.87	0.281	ng/L		12/05/21 08:06	12/07/21 19:28	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<0.187	cn	1.87	0.187	ng/L		12/05/21 08:06	12/07/21 19:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.469	cn	1.87	0.469	ng/L		12/05/21 08:06	12/07/21 19:28	1
MTP	<1.87	cn	4.69	1.87	ng/L		12/05/21 08:06	12/07/21 19:28	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	112	cn	37 - 164				12/05/21 08:06	12/07/21 19:28	1
d3-NMeFOSAA	101	cn	32 - 151				12/05/21 08:06	12/07/21 19:28	1
13C3 HFPO-DA	125	cn	20 - 153				12/05/21 08:06	12/07/21 19:28	1
d7-N-MeFOSE-M	113	cn	10 - 143				12/05/21 08:06	12/07/21 19:28	1
d9-N-EtFOSE-M	116	cn	10 - 142				12/05/21 08:06	12/07/21 19:28	1
M2-6:2 FTS	98	cn	29 - 189				12/05/21 08:06	12/07/21 19:28	1
M2-8:2 FTS	105	cn	34 - 182				12/05/21 08:06	12/07/21 19:28	1
13C3 PFBS	117	cn	19 - 178				12/05/21 08:06	12/07/21 19:28	1
M2-4:2 FTS	107	cn	20 - 187				12/05/21 08:06	12/07/21 19:28	1
13C5 PFHxA	106	cn	31 - 142				12/05/21 08:06	12/07/21 19:28	1
13C9 PFNA	108	cn	47 - 136				12/05/21 08:06	12/07/21 19:28	1
13C6 PFDA	109	cn	47 - 128				12/05/21 08:06	12/07/21 19:28	1
13C7 PFUnA	116	cn	40 - 135				12/05/21 08:06	12/07/21 19:28	1
13C3 PFHxS	107	cn	32 - 145				12/05/21 08:06	12/07/21 19:28	1
13C2-PFDoDA	109	cn	28 - 136				12/05/21 08:06	12/07/21 19:28	1
d5-NEtPFOSA	68	cn	10 - 108				12/05/21 08:06	12/07/21 19:28	1
d3-NMePFOSA	67	cn	10 - 107				12/05/21 08:06	12/07/21 19:28	1
13C2-2-Perfluorohexylethanoic acid	156	*5+ cn	50 - 150				12/05/21 08:06	12/07/21 19:28	1
13C2-2-Perfluorooctylethanoic acid	163	*5+ cn	50 - 150				12/05/21 08:06	12/07/21 19:28	1
13C2-2-Perfluorodecylethanoic acid	154	*5+ cn	50 - 150				12/05/21 08:06	12/07/21 19:28	1
13C2-2H-Perfluoro-2-octenoic acid	81	cn	50 - 150				12/05/21 08:06	12/07/21 19:28	1
13C2-2H-Perfluoro-2-decenoic acid	91	cn	50 - 150				12/05/21 08:06	12/07/21 19:28	1
13C2-2H-Perfluoro-2-dodecenoic acid	84	cn	50 - 150				12/05/21 08:06	12/07/21 19:28	1
13C4 PFBA	108	cn	41 - 132				12/05/21 08:06	12/07/21 19:28	1
13C5 PFPeA	109	cn	33 - 155				12/05/21 08:06	12/07/21 19:28	1

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-7

Date Collected: 12/01/21 10:40

Date Received: 12/02/21 11:08

Lab Sample ID: 410-65313-5

Matrix: Water

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	105	cn	30 - 144	12/05/21 08:06	12/07/21 19:28	1
13C8 PFOA	104	cn	49 - 127	12/05/21 08:06	12/07/21 19:28	1
13C8 PFOS	108	cn	49 - 126	12/05/21 08:06	12/07/21 19:28	1
13C8 FOSA	104	cn	10 - 143	12/05/21 08:06	12/07/21 19:28	1
13C2 PFTeDA	109	cn	10 - 144	12/05/21 08:06	12/07/21 19:28	1

Client Sample ID: SP-8

Date Collected: 12/01/21 12:20

Date Received: 12/02/21 11:08

Lab Sample ID: 410-65313-6

Matrix: Water

Method: 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NVHOS	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoro (2-ethoxyethane) sulfonic acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	<0.893	cn	4.47	0.893	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoro-3-methoxypropanoic acid (PMPA)	17.1	F1 cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	17.5	cn	2.68	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoro-4-ethylcyclohexanesulfonic acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorooctadecanoic acid	<0.893	cn	2.68	0.893	ng/L		12/05/21 08:06	12/07/21 19:39	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<0.893	cn	2.68	0.893	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorooctanesulfonic acid	5.83	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoroundecanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.536	cn	1.79	0.536	ng/L		12/05/21 08:06	12/07/21 19:39	1
R-PSDA	<0.447	F1 *- cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Hydrolyzed PSDA	<0.357	*- cn	1.79	0.357	ng/L		12/05/21 08:06	12/07/21 19:39	1
R-PSDCA	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
R-EVE	<0.357	*- cn	1.79	0.357	ng/L		12/05/21 08:06	12/07/21 19:39	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<0.893	cn	2.68	0.893	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoro-2-(perfluoroethoxy)propionic acid	5.71	F1 cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoropentanoic acid	59.4	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoropentanesulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
6:2 Fluorotelomer sulfonic acid	<1.79	cn	4.47	1.79	ng/L		12/05/21 08:06	12/07/21 19:39	1
8:2 Fluorotelomer carboxylic acid	<0.357	cn	1.79	0.357	ng/L		12/05/21 08:06	12/07/21 19:39	1
Nafion Byproduct 1 (Nafion BP1)	<2.68	F1 *- cn	8.93	2.68	ng/L		12/05/21 08:06	12/07/21 19:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.447	cn	2.68	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorohexanoic acid	8.77	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorododecanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<0.893	cn	2.68	0.893	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorooctanoic acid	3.82	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorodecanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-8

Lab Sample ID: 410-65313-6

Date Collected: 12/01/21 12:20

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorohexanesulfonic acid	3.56	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<0.268	cn	1.79	0.268	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorobutanesulfonic acid	11.9	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoroheptanoic acid	3.53	I cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoroheptanesulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorononanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorotetradecanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	49.1	F1 cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
8:2 Fluorotelomer sulfonic acid	<0.893	cn	2.68	0.893	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoro(3,5-dioxahexanoic) acid (PFO2HxA)	<0.179	F1 cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoro(3,5,7-trioxaoctanoic) acid (PFO3OA)	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA)	<0.268	F1 cn	1.79	0.268	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoro-3,5,7,9,11-pentaoxidodecanoic acid	<1.79	cn	4.47	1.79	ng/L		12/05/21 08:06	12/07/21 19:39	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<0.893	cn	4.47	0.893	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoropropanesulfonic acid	2.69	F1 cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
6:2 Fluorotelomer carboxylic acid	<0.357	cn	1.79	0.357	ng/L		12/05/21 08:06	12/07/21 19:39	1
10:2 Fluorotelomer carboxylic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoro-2-methoxyacetic acid (PFMOAA)	5.65	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorohexadecanoic acid	<0.893	cn	2.68	0.893	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorononanesulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
EVE Acid	<2.68	F1 *- cn	8.93	2.68	ng/L		12/05/21 08:06	12/07/21 19:39	1
8:2 Fluorotelemer unsaturated acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
6:2 Fluorotelemer unsaturated acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
10:2 Fluorotelemer unsaturated acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorotridecanoic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Hydro-PS Acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorooctanesulfonamide	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
4:2 Fluorotelomer sulfonic acid	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Hydro-EVE Acid	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluorododecanesulfonic acid	<0.447	cn	2.68	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoro-4-isopropoxybutanoic acid (PFipOBA)	1.41	J cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<0.268	F1 *- cn	1.79	0.268	ng/L		12/05/21 08:06	12/07/21 19:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	19.8	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<0.179	cn	1.79	0.179	ng/L		12/05/21 08:06	12/07/21 19:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.447	cn	1.79	0.447	ng/L		12/05/21 08:06	12/07/21 19:39	1

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-8

Lab Sample ID: 410-65313-6

Date Collected: 12/01/21 12:20

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MTP	<1.79	cn	4.47	1.79	ng/L		12/05/21 08:06	12/07/21 19:39	1
Isotope Dilution									
	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	105	cn	37 - 164				12/05/21 08:06	12/07/21 19:39	1
d3-NMeFOSAA	95	cn	32 - 151				12/05/21 08:06	12/07/21 19:39	1
13C3 HFPO-DA	119	cn	20 - 153				12/05/21 08:06	12/07/21 19:39	1
d7-N-MeFOSE-M	100	cn	10 - 143				12/05/21 08:06	12/07/21 19:39	1
d9-N-EtFOSE-M	100	cn	10 - 142				12/05/21 08:06	12/07/21 19:39	1
M2-6:2 FTS	94	cn	29 - 189				12/05/21 08:06	12/07/21 19:39	1
M2-8:2 FTS	95	cn	34 - 182				12/05/21 08:06	12/07/21 19:39	1
13C3 PFBS	144	cn	19 - 178				12/05/21 08:06	12/07/21 19:39	1
M2-4:2 FTS	114	cn	20 - 187				12/05/21 08:06	12/07/21 19:39	1
13C5 PFHxA	107	cn	31 - 142				12/05/21 08:06	12/07/21 19:39	1
13C9 PFNA	106	cn	47 - 136				12/05/21 08:06	12/07/21 19:39	1
13C6 PFDA	104	cn	47 - 128				12/05/21 08:06	12/07/21 19:39	1
13C7 PFUnA	102	cn	40 - 135				12/05/21 08:06	12/07/21 19:39	1
13C3 PFHxS	103	cn	32 - 145				12/05/21 08:06	12/07/21 19:39	1
13C2-PFDoDA	97	cn	28 - 136				12/05/21 08:06	12/07/21 19:39	1
d5-NEtPFOSA	54	cn	10 - 108				12/05/21 08:06	12/07/21 19:39	1
d3-NMePFOSA	55	cn	10 - 107				12/05/21 08:06	12/07/21 19:39	1
13C2-2-Perfluorohexylethanoic acid	147	cn	50 - 150				12/05/21 08:06	12/07/21 19:39	1
13C2-2-Perfluorooctylethanoic acid	142	cn	50 - 150				12/05/21 08:06	12/07/21 19:39	1
13C2-2-Perfluorodecylethanoic acid	142	cn	50 - 150				12/05/21 08:06	12/07/21 19:39	1
13C2-2H-Perfluoro-2-octenoic acid	80	cn	50 - 150				12/05/21 08:06	12/07/21 19:39	1
13C2-2H-Perfluoro-2-decenoic acid	78	cn	50 - 150				12/05/21 08:06	12/07/21 19:39	1
13C2-2H-Perfluoro-2-dodecenoic acid	74	cn	50 - 150				12/05/21 08:06	12/07/21 19:39	1
13C4 PFBA	105	cn	41 - 132				12/05/21 08:06	12/07/21 19:39	1
13C5 PFPeA	139	cn	33 - 155				12/05/21 08:06	12/07/21 19:39	1
13C4 PFHpA	102	cn	30 - 144				12/05/21 08:06	12/07/21 19:39	1
13C8 PFOA	103	cn	49 - 127				12/05/21 08:06	12/07/21 19:39	1
13C8 PFOS	104	cn	49 - 126				12/05/21 08:06	12/07/21 19:39	1
13C8 FOSA	99	cn	10 - 143				12/05/21 08:06	12/07/21 19:39	1
13C2 PFTeDA	104	cn	10 - 144				12/05/21 08:06	12/07/21 19:39	1

Method: 537 IDA - EPA 537 Isotope Dilution - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	1080	cn	44.7	17.9	ng/L		12/05/21 08:06	12/09/21 09:08	10
Perfluoropropionic Acid (PFPrA)	1900	cn	44.7	17.9	ng/L		12/05/21 08:06	12/09/21 09:08	10
Isotope Dilution									
	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	101	cn	41 - 132				12/05/21 08:06	12/09/21 09:08	10

Client Sample ID: SP-10

Lab Sample ID: 410-65313-7

Date Collected: 12/01/21 16:15

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NVHOS	<0.172	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoro (2-ethoxyethane) sulfonic acid	<0.172	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-10
Date Collected: 12/01/21 16:15
Date Received: 12/02/21 11:08

Lab Sample ID: 410-65313-7
Matrix: Water

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	<0.860	cn	4.30	0.860	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoro-3-methoxypropanoic acid (PMPA)	12.8	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	3.49	cn	2.58	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoro-4-ethylcyclohexanesulfonic acid	<0.172	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.172	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorooctadecanoic acid	<0.860	cn	2.58	0.860	ng/L		12/05/21 08:06	12/07/21 20:13	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<0.860	cn	2.58	0.860	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorooctanesulfonic acid	0.966	J I cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoroundecanoic acid	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.730	J cn	1.72	0.516	ng/L		12/05/21 08:06	12/07/21 20:13	1
R-PSDA	<0.430	*- cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Hydrolyzed PSDA	<0.344	*- cn	1.72	0.344	ng/L		12/05/21 08:06	12/07/21 20:13	1
R-PSDCA	<0.172	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
R-EVE	<0.344	*- cn	1.72	0.344	ng/L		12/05/21 08:06	12/07/21 20:13	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<0.860	cn	2.58	0.860	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoro-2-(perfluoroethoxy)propionic acid	2.88	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoropentanoic acid	36.6	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoropentanesulfonic acid	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
6:2 Fluorotelomer sulfonic acid	<1.72	cn	4.30	1.72	ng/L		12/05/21 08:06	12/07/21 20:13	1
8:2 Fluorotelomer carboxylic acid	0.369	J cn	1.72	0.344	ng/L		12/05/21 08:06	12/07/21 20:13	1
Nafion Byproduct 1 (Nafion BP1)	<2.58	*- cn	8.60	2.58	ng/L		12/05/21 08:06	12/07/21 20:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.878	J cn	2.58	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorohexanoic acid	6.53	I cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorododecanoic acid	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<0.860	cn	2.58	0.860	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorooctanoic acid	1.51	J cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorodecanoic acid	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorodecanesulfonic acid	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorohexanesulfonic acid	1.02	J cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<0.258	cn	1.72	0.258	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorobutanesulfonic acid	8.75	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoroheptanoic acid	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoroheptanesulfonic acid	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorononanoic acid	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorotetradecanoic acid	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	33.0	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
8:2 Fluorotelomer sulfonic acid	<0.860	cn	2.58	0.860	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoro(3,5-dioxaheptanoic acid (PFO2HxA)	<0.172	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1

Client Sample Results

Client: Eastern Research Group, Inc.
 Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-10
Date Collected: 12/01/21 16:15
Date Received: 12/02/21 11:08

Lab Sample ID: 410-65313-7
Matrix: Water

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro(3,5,7-trioxaoctanoic) acid (PFO3OA)	<0.172	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA)	<0.258	cn	1.72	0.258	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	<1.72	cn	4.30	1.72	ng/L		12/05/21 08:06	12/07/21 20:13	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<0.860	cn	4.30	0.860	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoropropanesulfonic acid	1.90	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
6:2 Fluorotelomer carboxylic acid	<0.344	cn	1.72	0.344	ng/L		12/05/21 08:06	12/07/21 20:13	1
10:2 Fluorotelomer carboxylic acid	0.557	J cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoro-2-methoxyacetic acid (PFMOAA)	4.68	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorohexadecanoic acid	<0.860	cn	2.58	0.860	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorononanesulfonic acid	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
EVE Acid	<2.58	*- cn	8.60	2.58	ng/L		12/05/21 08:06	12/07/21 20:13	1
8:2 Fluorotelemer unsaturated acid	0.523	J B cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
6:2 Fluorotelemer unsaturated acid	0.246	J cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
10:2 Fluorotelemer unsaturated acid	0.702	J B cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorotridecanoic acid	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Hydro-PS Acid	<0.172	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorooctanesulfonamide	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
4:2 Fluorotelomer sulfonic acid	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Hydro-EVE Acid	<0.172	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluorododecanesulfonic acid	<0.430	cn	2.58	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoro-4-isopropoxybutanoic acid (PFIPBA)	0.778	J cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.622	J B *- cn	1.72	0.258	ng/L		12/05/21 08:06	12/07/21 20:13	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	10.1	cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.627	J B cn	1.72	0.172	ng/L		12/05/21 08:06	12/07/21 20:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.430	cn	1.72	0.430	ng/L		12/05/21 08:06	12/07/21 20:13	1
MTP	<1.72	cn	4.30	1.72	ng/L		12/05/21 08:06	12/07/21 20:13	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	102	cn	37 - 164				12/05/21 08:06	12/07/21 20:13	1
d3-NMeFOSAA	91	cn	32 - 151				12/05/21 08:06	12/07/21 20:13	1
13C3 HFPO-DA	123	cn	20 - 153				12/05/21 08:06	12/07/21 20:13	1
d7-N-MeFOSE-M	98	cn	10 - 143				12/05/21 08:06	12/07/21 20:13	1
d9-N-EtFOSE-M	101	cn	10 - 142				12/05/21 08:06	12/07/21 20:13	1
M2-6:2 FTS	90	cn	29 - 189				12/05/21 08:06	12/07/21 20:13	1
M2-8:2 FTS	96	cn	34 - 182				12/05/21 08:06	12/07/21 20:13	1
13C3 PFBS	133	cn	19 - 178				12/05/21 08:06	12/07/21 20:13	1

Client Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-10

Lab Sample ID: 410-65313-7

Date Collected: 12/01/21 16:15

Matrix: Water

Date Received: 12/02/21 11:08

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
M2-4:2 FTS	109	cn	20 - 187	12/05/21 08:06	12/07/21 20:13	1
13C5 PFHxA	103	cn	31 - 142	12/05/21 08:06	12/07/21 20:13	1
13C9 PFNA	102	cn	47 - 136	12/05/21 08:06	12/07/21 20:13	1
13C6 PFDA	98	cn	47 - 128	12/05/21 08:06	12/07/21 20:13	1
13C7 PFUnA	105	cn	40 - 135	12/05/21 08:06	12/07/21 20:13	1
13C3 PFHxS	100	cn	32 - 145	12/05/21 08:06	12/07/21 20:13	1
13C2-PFDoDA	95	cn	28 - 136	12/05/21 08:06	12/07/21 20:13	1
d5-NEtPFOSA	61	cn	10 - 108	12/05/21 08:06	12/07/21 20:13	1
d3-NMePFOSA	59	cn	10 - 107	12/05/21 08:06	12/07/21 20:13	1
13C2-2-Perfluorohexylethanoic acid	145	cn	50 - 150	12/05/21 08:06	12/07/21 20:13	1
13C2-2-Perfluorooctylethanoic acid	124	cn	50 - 150	12/05/21 08:06	12/07/21 20:13	1
13C2-2-Perfluorodecylethanoic acid	123	cn	50 - 150	12/05/21 08:06	12/07/21 20:13	1
13C2-2H-Perfluoro-2-octenoic acid	75	cn	50 - 150	12/05/21 08:06	12/07/21 20:13	1
13C2-2H-Perfluoro-2-decenoic acid	75	cn	50 - 150	12/05/21 08:06	12/07/21 20:13	1
13C2-2H-Perfluoro-2-dodecenoic acid	74	cn	50 - 150	12/05/21 08:06	12/07/21 20:13	1
13C4 PFBA	100	cn	41 - 132	12/05/21 08:06	12/07/21 20:13	1
13C5 PFPeA	125	cn	33 - 155	12/05/21 08:06	12/07/21 20:13	1
13C4 PFHpA	101	cn	30 - 144	12/05/21 08:06	12/07/21 20:13	1
13C8 PFOA	98	cn	49 - 127	12/05/21 08:06	12/07/21 20:13	1
13C8 PFOS	99	cn	49 - 126	12/05/21 08:06	12/07/21 20:13	1
13C8 FOSA	95	cn	10 - 143	12/05/21 08:06	12/07/21 20:13	1
13C2 PFTeDA	98	cn	10 - 144	12/05/21 08:06	12/07/21 20:13	1

Method: 537 IDA - EPA 537 Isotope Dilution - DL

<i>Analyte</i>	<i>Result</i>	<i>Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Perfluorobutanoic acid	881	cn	43.0	17.2	ng/L		12/05/21 08:06	12/09/21 09:19	10
Perfluoropropionic Acid (PFPrA)	1340	cn	43.0	17.2	ng/L		12/05/21 08:06	12/09/21 09:19	10

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFBA	94	cn	41 - 132	12/05/21 08:06	12/09/21 09:19	10

Isotope Dilution Summary

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d5NEFOS (37-164)	d3NMFOS (32-151)	HFPODA (20-153)	NMFM (10-143)	NEFM (10-142)	M262FTS (29-189)	M282FTS (34-182)	C3PFBS (19-178)
410-65313-1	SP-3	99 cn	93 cn	118 cn	103 cn	104 cn	92 cn	103 cn	137 cn
410-65313-1 - DL	SP-3								
410-65313-2	SP-4	85 cn	80 cn	110 cn	79 cn	78 cn	86 cn	87 cn	119 cn
410-65313-2 - DL	SP-4								
410-65313-3	Trip Blank	97 cn	92 cn	120 cn	103 cn	107 cn	90 cn	97 cn	110 cn
410-65313-4	SP-6	101 cn	89 cn	119 cn	102 cn	107 cn	88 cn	100 cn	103 cn
410-65313-5	SP-7	112 cn	101 cn	125 cn	113 cn	116 cn	98 cn	105 cn	117 cn
410-65313-6	SP-8	105 cn	95 cn	119 cn	100 cn	100 cn	94 cn	95 cn	144 cn
410-65313-6 - DL	SP-8								
410-65313-6 MS	SP-8	87 cn	83 cn	108 cn	88 cn	90 cn	78 cn	85 cn	118 cn
410-65313-6 MSD	SP-8	100 cn	95 cn	118 cn	103 cn	103 cn	88 cn	92 cn	136 cn
410-65313-7	SP-10	102 cn	91 cn	123 cn	98 cn	101 cn	90 cn	96 cn	133 cn
410-65313-7 - DL	SP-10								
LCS 410-201569/3-A	Lab Control Sample	104	97	131	108	112	96	105	111
MB 410-201569/1-A	Method Blank	124	115	158 *5+	128	128	114	125	135

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M242FTS (20-187)	13C5PHA (31-142)	C9PFNA (47-136)	C6PFDA (47-128)	13C7PUA (40-135)	C3PFHS (32-145)	PFDODA (28-136)	d5NPFSA (10-108)
410-65313-1	SP-3	115 cn	107 cn	108 cn	103 cn	101 cn	105 cn	93 cn	73 cn
410-65313-1 - DL	SP-3								
410-65313-2	SP-4	102 cn	93 cn	93 cn	90 cn	88 cn	93 cn	71 cn	56 cn
410-65313-2 - DL	SP-4								
410-65313-3	Trip Blank	107 cn	106 cn	109 cn	101 cn	98 cn	105 cn	95 cn	87 cn
410-65313-4	SP-6	101 cn	106 cn	102 cn	101 cn	97 cn	103 cn	92 cn	84 cn
410-65313-5	SP-7	107 cn	106 cn	108 cn	109 cn	116 cn	107 cn	109 cn	68 cn
410-65313-6	SP-8	114 cn	107 cn	106 cn	104 cn	102 cn	103 cn	97 cn	54 cn
410-65313-6 - DL	SP-8								
410-65313-6 MS	SP-8	94 cn	91 cn	93 cn	87 cn	89 cn	95 cn	84 cn	62 cn
410-65313-6 MSD	SP-8	107 cn	102 cn	107 cn	99 cn	101 cn	100 cn	103 cn	60 cn
410-65313-7	SP-10	109 cn	103 cn	102 cn	98 cn	105 cn	100 cn	95 cn	61 cn
410-65313-7 - DL	SP-10								
LCS 410-201569/3-A	Lab Control Sample	104	115	108	110	108	116	99	92
MB 410-201569/1-A	Method Blank	142	134	135	131 *5+	130	139	119	109 *5+

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d3NMFSA (10-107)	MFHEA (50-150)	MFOEA (50-150)	MFDEA (50-150)	MFHUEA (50-150)	MFOUEA (50-150)	MFDUEA (50-150)	PFBA (41-132)
410-65313-1	SP-3	73 cn	159 *5+ cn	147 cn	138 cn	81 cn	83 cn	74 cn	104 cn
410-65313-1 - DL	SP-3								90 cn
410-65313-2	SP-4	57 cn	133 cn	118 cn	105 cn	73 cn	69 cn	61 cn	92 cn
410-65313-2 - DL	SP-4								92 cn
410-65313-3	Trip Blank	85 cn	154 *5+ cn	131 cn	140 cn	82 cn	75 cn	76 cn	103 cn
410-65313-4	SP-6	80 cn	151 *5+ cn	137 cn	125 cn	75 cn	77 cn	74 cn	98 cn
410-65313-5	SP-7	67 cn	156 *5+ cn	163 *5+ cn	154 *5+ cn	81 cn	91 cn	84 cn	108 cn
410-65313-6	SP-8	55 cn	147 cn	142 cn	142 cn	80 cn	78 cn	74 cn	105 cn
410-65313-6 - DL	SP-8								101 cn
410-65313-6 MS	SP-8	61 cn	140 cn	123 cn	118 cn	70 cn	69 cn	63 cn	86 cn

Eurofins Lancaster Laboratories Env, LLC

Isotope Dilution Summary

Client: Eastern Research Group, Inc.
 Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d3NMFSFA (10-107)	MFHEA (50-150)	MFOEA (50-150)	MFDEA (50-150)	MFHUEA (50-150)	MFOUEA (50-150)	MFDUEA (50-150)	PFBA (41-132)
410-65313-6 MSD	SP-8	60 cn	143 cn	138 cn	146 cn	77 cn	80 cn	76 cn	99 cn
410-65313-7	SP-10	59 cn	145 cn	124 cn	123 cn	75 cn	75 cn	74 cn	100 cn
410-65313-7 - DL	SP-10								94 cn
LCS 410-201569/3-A	Lab Control Sample	90	161 *5+	150	141	82	81	79	106
MB 410-201569/1-A	Method Blank	103	198 *5+	178 *5+	170 *5+	104	95	94	131

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFPeA (33-155)	C4PFHA (30-144)	C8PFOA (49-127)	C8PFOS (49-126)	PFOSA (10-143)	PFTDA (10-144)
410-65313-1	SP-3	127 cn	105 cn	107 cn	102 cn	107 cn	93 cn
410-65313-1 - DL	SP-3						
410-65313-2	SP-4	111 cn	95 cn	92 cn	89 cn	90 cn	72 cn
410-65313-2 - DL	SP-4						
410-65313-3	Trip Blank	101 cn	108 cn	107 cn	106 cn	92 cn	100 cn
410-65313-4	SP-6	99 cn	103 cn	97 cn	99 cn	97 cn	93 cn
410-65313-5	SP-7	109 cn	105 cn	104 cn	108 cn	104 cn	109 cn
410-65313-6	SP-8	139 cn	102 cn	103 cn	104 cn	99 cn	104 cn
410-65313-6 - DL	SP-8						
410-65313-6 MS	SP-8	111 cn	94 cn	92 cn	89 cn	85 cn	87 cn
410-65313-6 MSD	SP-8	135 cn	103 cn	99 cn	99 cn	96 cn	99 cn
410-65313-7	SP-10	125 cn	101 cn	98 cn	99 cn	95 cn	98 cn
410-65313-7 - DL	SP-10						
LCS 410-201569/3-A	Lab Control Sample	109	116	105	104	99	108
MB 410-201569/1-A	Method Blank	132	139	132 *5+	121	117	124

Surrogate Legend

d5NEFOS = d5-NEtFOSAA
 d3NMFSFA = d3-NMeFOSAA
 HFPODA = 13C3 HFPO-DA
 NMFM = d7-N-MeFOSE-M
 NEFM = d9-N-EtFOSE-M
 M262FTS = M2-6:2 FTS
 M282FTS = M2-8:2 FTS
 C3PFBS = 13C3 PFBS
 M242FTS = M2-4:2 FTS
 13C5PHA = 13C5 PFHxA
 C9PFNA = 13C9 PFNA
 C6PFDA = 13C6 PFDA
 13C7PUA = 13C7 PFUnA
 C3PFHS = 13C3 PFHxS
 PFDoDA = 13C2-PFDoDA
 d5NPFSA = d5-NEtPFOSA
 d3NMFSA = d3-NMePFOSA
 MFHEA = 13C2-2-Perfluorohexylethanoic acid
 MFOEA = 13C2-2-Perfluorooctylethanoic acid
 MFDEA = 13C2-2-Perfluorodecylethanoic acid
 MFHUEA = 13C2-2H-Perfluoro-2-octenoic acid
 MFOUEA = 13C2-2H-Perfluoro-2-decenoic acid
 MFDUEA = 13C2-2H-Perfluoro-2-dodecenoic acid
 PFBA = 13C4 PFBA
 PFPeA = 13C5 PFPeA

Isotope Dilution Summary

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C8PFOS = 13C8 PFOS
PFOSA = 13C8 FOSA
PFTDA = 13C2 PFTeDA

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QC Sample Results

Client: Eastern Research Group, Inc.
 Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution

Lab Sample ID: MB 410-201569/1-A
Matrix: Water
Analysis Batch: 202386

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201569

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NVHOS	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoro (2-ethoxyethane) sulfonic acid	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	<1.00		5.00	1.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoro-3-methoxypropanoic acid (PMPA)	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	<0.500		3.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoro-4-ethylcyclohexanesulfonic acid	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorooctadecanoic acid	<1.00		3.00	1.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<1.00		3.00	1.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorooctanesulfonic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoroundecanoic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.600		2.00	0.600	ng/L		12/05/21 08:06	12/07/21 18:11	1
R-PSDA	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Hydrolyzed PSDA	<0.400		2.00	0.400	ng/L		12/05/21 08:06	12/07/21 18:11	1
R-PSDCA	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
R-EVE	<0.400		2.00	0.400	ng/L		12/05/21 08:06	12/07/21 18:11	1
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<1.00		3.00	1.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoro-2-(perfluoroethoxy)propionic acid	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoropentanoic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoropentanesulfonic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
6:2 Fluorotelomer sulfonic acid	<2.00		5.00	2.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
8:2 Fluorotelomer carboxylic acid	<0.400		2.00	0.400	ng/L		12/05/21 08:06	12/07/21 18:11	1
Nafion Byproduct 1 (Nafion BP1)	<3.00		10.0	3.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.500		3.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorohexanoic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorododecanoic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
N-methylperfluorooctane sulfonamide (NMeFOSA)	<1.00		3.00	1.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorooctanoic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorodecanoic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorodecanesulfonic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorohexanesulfonic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<0.300		2.00	0.300	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorobutanoic acid	<2.00		5.00	2.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorobutanesulfonic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoroheptanoic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoroheptanesulfonic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorononanoic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorotetradecanoic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1

QC Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: MB 410-201569/1-A
Matrix: Water
Analysis Batch: 202386

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201569

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
8:2 Fluorotelomer sulfonic acid	<1.00		3.00	1.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoro(3,5-dioxaheptanoic) acid (PFO2HxA)	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoro(3,5,7-trioxaoctanoic) acid (PFO3OA)	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA)	<0.300		2.00	0.300	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	<2.00		5.00	2.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<1.00		5.00	1.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoropropionic Acid (PFPrA)	<2.00		5.00	2.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoropropanesulfonic acid	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
6:2 Fluorotelomer carboxylic acid	<0.400		2.00	0.400	ng/L		12/05/21 08:06	12/07/21 18:11	1
10:2 Fluorotelomer carboxylic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoro-2-methoxyacetic acid (PFMOAA)	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorohexadecanoic acid	<1.00		3.00	1.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorononanesulfonic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
EVE Acid	<3.00		10.0	3.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
8:2 Fluorotelemer unsaturated acid	0.2236	J	2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
6:2 Fluorotelemer unsaturated acid	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
10:2 Fluorotelemer unsaturated acid	0.4212	J	2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorotridecanoic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Hydro-PS Acid	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorooctanesulfonamide	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
4:2 Fluorotelomer sulfonic acid	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Hydro-EVE Acid	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluorododecanesulfonic acid	<0.500		3.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoro-4-isopropoxybutanoic acid (PFIpOBA)	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	0.3219	J	2.00	0.300	ng/L		12/05/21 08:06	12/07/21 18:11	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.200		2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
3-Perfluoropentylpropanoic acid (5:3 FTCA)	0.2729	J	2.00	0.200	ng/L		12/05/21 08:06	12/07/21 18:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.500		2.00	0.500	ng/L		12/05/21 08:06	12/07/21 18:11	1
MTP	<2.00		5.00	2.00	ng/L		12/05/21 08:06	12/07/21 18:11	1
	MB	MB							
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	124		37 - 164				12/05/21 08:06	12/07/21 18:11	1
d3-NMeFOSAA	115		32 - 151				12/05/21 08:06	12/07/21 18:11	1
13C3 HFPO-DA	158	*5+	20 - 153				12/05/21 08:06	12/07/21 18:11	1
d7-N-MeFOSE-M	128		10 - 143				12/05/21 08:06	12/07/21 18:11	1

QC Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: MB 410-201569/1-A
Matrix: Water
Analysis Batch: 202386

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201569

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
d9-N-EtFOSE-M	128		10 - 142	12/05/21 08:06	12/07/21 18:11	1
M2-6:2 FTS	114		29 - 189	12/05/21 08:06	12/07/21 18:11	1
M2-8:2 FTS	125		34 - 182	12/05/21 08:06	12/07/21 18:11	1
13C3 PFBS	135		19 - 178	12/05/21 08:06	12/07/21 18:11	1
M2-4:2 FTS	142		20 - 187	12/05/21 08:06	12/07/21 18:11	1
13C5 PFHxA	134		31 - 142	12/05/21 08:06	12/07/21 18:11	1
13C9 PFNA	135		47 - 136	12/05/21 08:06	12/07/21 18:11	1
13C6 PFDA	131	*5+	47 - 128	12/05/21 08:06	12/07/21 18:11	1
13C7 PFUnA	130		40 - 135	12/05/21 08:06	12/07/21 18:11	1
13C3 PFHxS	139		32 - 145	12/05/21 08:06	12/07/21 18:11	1
13C2-PFDoDA	119		28 - 136	12/05/21 08:06	12/07/21 18:11	1
d5-NEtPFOSA	109	*5+	10 - 108	12/05/21 08:06	12/07/21 18:11	1
d3-NMePFOSA	103		10 - 107	12/05/21 08:06	12/07/21 18:11	1
13C2-2-Perfluorohexylethanoic acid	198	*5+	50 - 150	12/05/21 08:06	12/07/21 18:11	1
13C2-2-Perfluorooctylethanoic acid	178	*5+	50 - 150	12/05/21 08:06	12/07/21 18:11	1
13C2-2-Perfluorodecylethanoic acid	170	*5+	50 - 150	12/05/21 08:06	12/07/21 18:11	1
13C2-2H-Perfluoro-2-octenoic acid	104		50 - 150	12/05/21 08:06	12/07/21 18:11	1
13C2-2H-Perfluoro-2-decenoic acid	95		50 - 150	12/05/21 08:06	12/07/21 18:11	1
13C2-2H-Perfluoro-2-dodecenoic acid	94		50 - 150	12/05/21 08:06	12/07/21 18:11	1
13C4 PFBA	131		41 - 132	12/05/21 08:06	12/07/21 18:11	1
13C5 PFPeA	132		33 - 155	12/05/21 08:06	12/07/21 18:11	1
13C4 PFHpA	139		30 - 144	12/05/21 08:06	12/07/21 18:11	1
13C8 PFOA	132	*5+	49 - 127	12/05/21 08:06	12/07/21 18:11	1
13C8 PFOS	121		49 - 126	12/05/21 08:06	12/07/21 18:11	1
13C8 FOSA	117		10 - 143	12/05/21 08:06	12/07/21 18:11	1
13C2 PFTeDA	124		10 - 144	12/05/21 08:06	12/07/21 18:11	1

Lab Sample ID: LCS 410-201569/3-A
Matrix: Water
Analysis Batch: 202386

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201569

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoro (2-ethoxyethane) sulfonic acid	22.8	22.30		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	24.7	24.29		ng/L		98	44 - 141
Perfluoro-3-methoxypropanoic acid (PMPA)	25.6	24.52		ng/L		96	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	25.6	19.88		ng/L		78	37 - 147
Perfluoro-4-ethylcyclohexanesulfonic acid	23.6	25.76		ng/L		109	70 - 130
Nonafluoro-3,6-dioxahheptanoic acid (NFDHA)	25.6	29.58		ng/L		116	70 - 130
Perfluorooctadecanoic acid	25.6	27.09		ng/L		106	32 - 167
N-ethylperfluorooctane sulfonamidoethanol (NETFOSE)	25.6	25.35		ng/L		99	49 - 128
Perfluorooctanesulfonic acid	23.7	22.90		ng/L		97	51 - 126
Perfluoroundecanoic acid	25.6	23.61		ng/L		92	62 - 138

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: Eastern Research Group, Inc.
 Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCS 410-201569/3-A
Matrix: Water
Analysis Batch: 202386

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201569

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.6	24.96		ng/L		97	58 - 143
R-PSDA	25.6	11.52	*-	ng/L		45	70 - 130
Hydrolyzed PSDA	25.6	13.12	*-	ng/L		51	70 - 130
R-PSDCA	25.6	23.21		ng/L		91	70 - 130
R-EVE	25.6	15.13	*-	ng/L		59	70 - 130
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	25.6	26.02		ng/L		102	52 - 131
Perfluoro-2-(perfluoroethoxy)propionic acid	25.6	25.16		ng/L		98	70 - 130
Perfluoropentanoic acid	25.6	22.99		ng/L		90	72 - 139
Perfluoropentanesulfonic acid	24.0	24.86		ng/L		104	71 - 136
6:2 Fluorotelomer sulfonic acid	24.3	25.87		ng/L		107	57 - 137
8:2 Fluorotelomer carboxylic acid	25.6	22.77		ng/L		89	70 - 130
Nafion Byproduct 1 (Nafion BP1)	25.6	<3.00	*-	ng/L		7	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.6	20.81		ng/L		81	54 - 134
Perfluorohexanoic acid	25.6	23.36		ng/L		91	66 - 137
Perfluorododecanoic acid	25.6	25.58		ng/L		100	63 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	25.6	26.98		ng/L		105	49 - 141
Perfluorooctanoic acid	25.6	24.23		ng/L		95	65 - 136
Perfluorodecanoic acid	25.6	21.63		ng/L		84	63 - 137
Perfluorodecanesulfonic acid	24.7	25.36		ng/L		103	61 - 134
Perfluorohexanesulfonic acid	23.3	20.15		ng/L		86	60 - 128
3-Perfluoropropylpropanoic acid (3:3 FTCA)	25.6	28.89		ng/L		113	70 - 130
Perfluorobutanoic acid	25.6	25.84		ng/L		101	62 - 156
Perfluorobutanesulfonic acid	22.7	20.13		ng/L		89	65 - 132
Perfluoroheptanoic acid	25.6	21.86		ng/L		85	66 - 141
Perfluoroheptanesulfonic acid	24.4	23.31		ng/L		96	67 - 135
Perfluorononanoic acid	25.6	23.52		ng/L		92	65 - 140
Perfluorotetradecanoic acid	25.6	22.90		ng/L		89	64 - 141
Perfluoro-3-methoxypropanoic acid (PFMPA)	25.6	27.08		ng/L		106	70 - 130
8:2 Fluorotelomer sulfonic acid	24.5	23.07		ng/L		94	56 - 140
Perfluoro(3,5-dioxahexanoic) acid (PFO2HxA)	25.6	26.38		ng/L		103	70 - 130
Perfluoro(3,5,7-trioxaoctanoic) acid (PFO3OA)	25.6	24.13		ng/L		94	70 - 130
Perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA)	25.6	25.99		ng/L		102	70 - 130
Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	25.6	24.20		ng/L		95	70 - 130
N-ethylperfluorooctane sulfonamide (NEtFOSA)	25.6	24.65		ng/L		96	50 - 136
Perfluoropropionic Acid (PFPrA)	25.6	23.09		ng/L		90	70 - 130
Perfluoropropanesulfonic acid	23.4	23.53		ng/L		100	70 - 130
6:2 Fluorotelomer carboxylic acid	25.6	21.13		ng/L		83	70 - 130
10:2 Fluorotelomer carboxylic acid	25.6	23.89		ng/L		93	70 - 130

QC Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCS 410-201569/3-A
Matrix: Water
Analysis Batch: 202386

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201569

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoro-2-methoxyacetic acid (PFMOAA)	25.6	23.38		ng/L		91	70 - 130
Perfluorohexadecanoic acid	25.6	27.19		ng/L		106	52 - 149
Perfluorononanesulfonic acid	24.6	24.19		ng/L		98	67 - 137
EVE Acid	25.6	<3.00	*-	ng/L		11	70 - 130
8:2 Fluorotelemer unsaturated acid	25.6	27.99		ng/L		109	70 - 130
6:2 Fluorotelemer unsaturated acid	25.6	26.83		ng/L		105	70 - 130
10:2 Fluorotelemer unsaturated acid	25.6	29.91		ng/L		117	70 - 130
Perfluorotridecanoic acid	25.6	28.02		ng/L		109	58 - 146
Hydro-PS Acid	25.6	23.07		ng/L		90	70 - 130
Perfluorooctanesulfonamide	25.6	27.10		ng/L		106	55 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	23.8	21.81		ng/L		92	52 - 135
4:2 Fluorotelomer sulfonic acid	23.9	24.13		ng/L		101	59 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	23.8	23.73		ng/L		100	45 - 134
Hydro-EVE Acid	25.6	24.02		ng/L		94	70 - 130
Perfluorododecanesulfonic acid	24.8	26.17		ng/L		106	54 - 136
Perfluoro-4-isopropoxybutanoic acid (PFIPBA)	25.6	23.72		ng/L		93	70 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	25.6	14.34	*-	ng/L		56	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	25.6	22.76		ng/L		89	70 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	25.6	21.21		ng/L		83	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	24.2	21.05		ng/L		87	49 - 158
MTP	25.6	23.93		ng/L		93	70 - 130

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	104		37 - 164
d3-NMeFOSAA	97		32 - 151
13C3 HFPO-DA	131		20 - 153
d7-N-MeFOSE-M	108		10 - 143
d9-N-EtFOSE-M	112		10 - 142
M2-6:2 FTS	96		29 - 189
M2-8:2 FTS	105		34 - 182
13C3 PFBS	111		19 - 178
M2-4:2 FTS	104		20 - 187
13C5 PFHxA	115		31 - 142
13C9 PFNA	108		47 - 136
13C6 PFDA	110		47 - 128
13C7 PFUnA	108		40 - 135
13C3 PFHxS	116		32 - 145
13C2-PFDoDA	99		28 - 136
d5-NEtPFOSA	92		10 - 108

Eurofins Lancaster Laboratories Env, LLC

QC Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCS 410-201569/3-A
Matrix: Water
Analysis Batch: 202386

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201569

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
d3-NMePFOSA	90		10 - 107
13C2-2-Perfluorohexylethanoic acid	161	*5+	50 - 150
13C2-2-Perfluorooctylethanoic acid	150		50 - 150
13C2-2-Perfluorodecylethanoic acid	141		50 - 150
13C2-2H-Perfluoro-2-octenoic acid	82		50 - 150
13C2-2H-Perfluoro-2-decenoic acid	81		50 - 150
13C2-2H-Perfluoro-2-dodecenoic acid	79		50 - 150
13C4 PFBA	106		41 - 132
13C5 PFPeA	109		33 - 155
13C4 PFHpA	116		30 - 144
13C8 PFOA	105		49 - 127
13C8 PFOS	104		49 - 126
13C8 FOSA	99		10 - 143
13C2 PFTeDA	108		10 - 144

Lab Sample ID: 410-65313-6 MS
Matrix: Water
Analysis Batch: 202386

Client Sample ID: SP-8
Prep Type: Total/NA
Prep Batch: 201569

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
NVHOS	<0.179	cn	21.9	20.85	cn	ng/L		95	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid	<0.179	cn	19.5	20.21	cn	ng/L		104	70 - 130
1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	<0.893	cn	21.1	21.16	cn	ng/L		100	44 - 141
Perfluoro-3-methoxypropanoic acid (PMPA)	17.1	F1 cn	21.9	46.28	F1 cn	ng/L		133	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	17.5	cn	21.9	35.32	cn	ng/L		81	37 - 147
Perfluoro-4-ethylcyclohexanesulfonic acid	<0.179	cn	20.2	21.67	cn	ng/L		107	70 - 130
Nonafluoro-3,6-dioxahheptanoic acid (NFDHA)	<0.179	cn	21.9	25.51	cn	ng/L		116	70 - 130
Perfluorooctadecanoic acid	<0.893	cn	21.9	24.23	cn	ng/L		111	32 - 167
N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)	<0.893	cn	21.9	22.16	cn	ng/L		101	49 - 128
Perfluorooctanesulfonic acid	5.83	cn	20.3	24.92	cn	ng/L		94	51 - 126
Perfluoroundecanoic acid	<0.447	cn	21.9	20.33	cn	ng/L		93	62 - 138
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.536	cn	21.9	19.59	cn	ng/L		89	58 - 143
R-PSDA	<0.447	F1 *- cn	21.9	16.07	cn	ng/L		73	70 - 130
Hydrolyzed PSDA	<0.357	*- cn	21.9	20.34	cn	ng/L		93	70 - 130
R-PSDCA	<0.179	cn	21.9	20.63	cn	ng/L		94	70 - 130
R-EVE	<0.357	*- cn	21.9	19.19	cn	ng/L		88	70 - 130
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<0.893	cn	21.9	22.34	cn	ng/L		102	52 - 131

QC Sample Results

Client: Eastern Research Group, Inc.
 Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: 410-65313-6 MS
Matrix: Water
Analysis Batch: 202386

Client Sample ID: SP-8
Prep Type: Total/NA
Prep Batch: 201569

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Perfluoro-2-(perfluoroethoxy)propionic acid	5.71	F1 cn	21.9	35.50	F1 cn	ng/L		136	70 - 130
Perfluoropentanoic acid	59.4	cn	21.9	84.08	cn	ng/L		112	72 - 139
Perfluoropentanesulfonic acid	<0.447	cn	20.5	22.61	cn	ng/L		110	71 - 136
6:2 Fluorotelomer sulfonic acid	<1.79	cn	20.8	22.81	cn	ng/L		110	57 - 137
8:2 Fluorotelomer carboxylic acid	<0.357	cn	21.9	20.72	cn	ng/L		95	70 - 130
Nafion Byproduct 1 (Nafion BP1)	<2.68	F1 *- cn	21.9	5.091	J F1 cn	ng/L		23	70 - 130
N-ethylperfluorooctanesulfonamide doacetic acid (NETFOSAA)	<0.447	cn	21.9	18.10	cn	ng/L		83	54 - 134
Perfluorohexanoic acid	8.77	cn	21.9	30.57	cn	ng/L		100	66 - 137
Perfluorododecanoic acid	<0.447	cn	21.9	20.18	cn	ng/L		92	63 - 140
N-methylperfluorooctane sulfonamide (NMeFOSA)	<0.893	cn	21.9	24.68	cn	ng/L		113	49 - 141
Perfluorooctanoic acid	3.82	cn	21.9	22.21	cn	ng/L		84	65 - 136
Perfluorodecanoic acid	<0.447	cn	21.9	19.13	cn	ng/L		87	63 - 137
Perfluorodecanesulfonic acid	<0.447	cn	21.1	21.65	cn	ng/L		103	61 - 134
Perfluorohexanesulfonic acid	3.56	cn	20.0	21.37	cn	ng/L		89	60 - 128
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<0.268	cn	21.9	26.49	cn	ng/L		121	70 - 130
Perfluorobutanoic acid	1070	E cn	21.9	1097	E 4 cn	ng/L		142	62 - 156
Perfluorobutanesulfonic acid	11.9	cn	19.4	29.39	cn	ng/L		90	65 - 132
Perfluoroheptanoic acid	3.53	I cn	21.9	23.80	cn	ng/L		93	66 - 141
Perfluoroheptanesulfonic acid	<0.447	cn	20.9	19.96	cn	ng/L		96	67 - 135
Perfluorononanoic acid	<0.447	cn	21.9	21.00	cn	ng/L		96	65 - 140
Perfluorotetradecanoic acid	<0.447	cn	21.9	20.36	cn	ng/L		93	64 - 141
Perfluoro-3-methoxypropanoic acid (PFMPA)	49.1	F1 cn	21.9	81.48	F1 cn	ng/L		148	70 - 130
8:2 Fluorotelomer sulfonic acid	<0.893	cn	21.0	19.73	cn	ng/L		94	56 - 140
Perfluoro(3,5-dioxahexanoic) acid (PFO2HxA)	<0.179	F1 cn	21.9	31.90	F1 cn	ng/L		146	70 - 130
Perfluoro(3,5,7-trioxaoctanoic) acid (PFO3OA)	<0.179	cn	21.9	27.31	cn	ng/L		125	70 - 130
Perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA)	<0.268	F1 cn	21.9	30.19	F1 cn	ng/L		138	70 - 130
Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	<1.79	cn	21.9	28.49	cn	ng/L		130	70 - 130
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<0.893	cn	21.9	21.47	cn	ng/L		98	50 - 136
Perfluoropropionic Acid (PFPrA)	1960	E cn	21.9	2074	E 4 cn	ng/L		500	70 - 130
Perfluoropropanesulfonic acid	2.69	F1 cn	20.1	29.78	F1 cn	ng/L		135	70 - 130
6:2 Fluorotelomer carboxylic acid	<0.357	cn	21.9	17.22	cn	ng/L		79	70 - 130
10:2 Fluorotelomer carboxylic acid	<0.447	cn	21.9	19.97	cn	ng/L		91	70 - 130
Perfluoro-2-methoxyacetic acid (PFMOAA)	5.65	cn	21.9	33.51	cn	ng/L		127	70 - 130
Perfluorohexadecanoic acid	<0.893	cn	21.9	22.78	cn	ng/L		104	52 - 149
Perfluoronanesulfonic acid	<0.447	cn	21.0	22.33	cn	ng/L		106	67 - 137
EVE Acid	<2.68	F1 *- cn	21.9	7.856	J F1 cn	ng/L		36	70 - 130
8:2 Fluorotelemer unsaturated acid	<0.179	cn	21.9	23.15	cn	ng/L		106	70 - 130
6:2 Fluorotelemer unsaturated acid	<0.179	cn	21.9	23.92	cn	ng/L		109	70 - 130

QC Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: 410-65313-6 MS

Matrix: Water

Analysis Batch: 202386

Client Sample ID: SP-8

Prep Type: Total/NA

Prep Batch: 201569

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
10:2 Fluorotelemer unsaturated acid	<0.179	cn	21.9	26.98	cn	ng/L		123	70 - 130
Perfluorotridecanoic acid	<0.447	cn	21.9	23.47	cn	ng/L		107	58 - 146
Hydro-PS Acid	<0.179	cn	21.9	19.48	cn	ng/L		89	70 - 130
Perfluorooctanesulfonamide	<0.447	cn	21.9	22.19	cn	ng/L		101	55 - 130
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid(9Cl-PF3ONS)	<0.447	cn	20.4	19.91	cn	ng/L		98	52 - 134
4:2 Fluorotelomer sulfonic acid	<0.447	cn	20.5	21.62	cn	ng/L		106	59 - 130
11-Chloroeicosfluoro-3-oxaund ecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.447	cn	20.4	21.17	cn	ng/L		104	45 - 134
Hydro-EVE Acid	<0.179	cn	21.9	27.36	cn	ng/L		125	70 - 130
Perfluorododecanesulfonic acid	<0.447	cn	21.2	23.83	cn	ng/L		112	54 - 136
Perfluoro-4-isopropoxybutanoic acid (PFIPBA)	1.41	J cn	21.9	28.62	cn	ng/L		124	70 - 130
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<0.268	F1 * - cn	21.9	11.69	F1 cn	ng/L		53	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	19.8	cn	21.9	41.67	cn	ng/L		100	70 - 130
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<0.179	cn	21.9	18.85	cn	ng/L		86	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.447	cn	20.7	18.78	cn	ng/L		91	49 - 158
MTP	<1.79	cn	21.9	18.77	cn	ng/L		86	70 - 130
		MS MS							
Isotope Dilution		%Recovery	Qualifier	Limits					
d5-NEtFOSAA	87	cn	37 - 164						
d3-NMeFOSAA	83	cn	32 - 151						
13C3 HFPO-DA	108	cn	20 - 153						
d7-N-MeFOSE-M	88	cn	10 - 143						
d9-N-EtFOSE-M	90	cn	10 - 142						
M2-6:2 FTS	78	cn	29 - 189						
M2-8:2 FTS	85	cn	34 - 182						
13C3 PFBS	118	cn	19 - 178						
M2-4:2 FTS	94	cn	20 - 187						
13C5 PFHxA	91	cn	31 - 142						
13C9 PFNA	93	cn	47 - 136						
13C6 PFDA	87	cn	47 - 128						
13C7 PFUnA	89	cn	40 - 135						
13C3 PFHxS	95	cn	32 - 145						
13C2-PFDoDA	84	cn	28 - 136						
d5-NEtPFOSA	62	cn	10 - 108						
d3-NMePFOSA	61	cn	10 - 107						
13C2-2-Perfluorohexylethanoic acid	140	cn	50 - 150						
13C2-2-Perfluorooctylethanoic acid	123	cn	50 - 150						
13C2-2-Perfluorodecylethanoic acid	118	cn	50 - 150						
13C2-2H-Perfluoro-2-octenoic acid	70	cn	50 - 150						

QC Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: 410-65313-6 MS
Matrix: Water
Analysis Batch: 202386

Client Sample ID: SP-8
Prep Type: Total/NA
Prep Batch: 201569

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-2H-Perfluoro-2-decenoic acid	69	cn	50 - 150
13C2-2H-Perfluoro-2-dodecenoic acid	63	cn	50 - 150
13C4 PFBA	86	cn	41 - 132
13C5 PFPeA	111	cn	33 - 155
13C4 PFHpA	94	cn	30 - 144
13C8 PFOA	92	cn	49 - 127
13C8 PFOS	89	cn	49 - 126
13C8 FOSA	85	cn	10 - 143
13C2 PFTeDA	87	cn	10 - 144

Lab Sample ID: 410-65313-6 MSD
Matrix: Water
Analysis Batch: 202386

Client Sample ID: SP-8
Prep Type: Total/NA
Prep Batch: 201569

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
NVHOS	<0.179	cn	22.0	21.14	cn	ng/L		96	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid	<0.179	cn	19.6	19.88	cn	ng/L		102	70 - 130	2	30
1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)	<0.893	cn	21.2	24.56	cn	ng/L		116	44 - 141	15	30
Perfluoro-3-methoxypropanoic acid (PMPA)	17.1	F1 cn	22.0	48.12	F1 cn	ng/L		141	70 - 130	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	17.5	cn	22.0	34.79	cn	ng/L		79	37 - 147	1	30
Perfluoro-4-ethylcyclohexanesulfonic acid	<0.179	cn	20.3	23.03	cn	ng/L		114	70 - 130	6	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.179	cn	22.0	27.11	cn	ng/L		123	70 - 130	6	30
Perfluorooctadecanoic acid	<0.893	cn	22.0	25.35	cn	ng/L		115	32 - 167	4	30
N-ethylperfluorooctane sulfonamidoethanol (NETFOSE)	<0.893	cn	22.0	23.02	cn	ng/L		105	49 - 128	4	30
Perfluorooctanesulfonic acid	5.83	cn	20.3	25.50	cn	ng/L		97	51 - 126	2	30
Perfluoroundecanoic acid	<0.447	cn	22.0	21.63	cn	ng/L		98	62 - 138	6	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.536	cn	22.0	19.86	cn	ng/L		90	58 - 143	1	30
R-PSDA	<0.447	F1 *- cn	22.0	15.28	F1 cn	ng/L		69	70 - 130	5	30
Hydrolyzed PSDA	<0.357	*- cn	22.0	20.20	cn	ng/L		92	70 - 130	1	30
R-PSDCA	<0.179	cn	22.0	20.26	cn	ng/L		92	70 - 130	2	30
R-EVE	<0.357	*- cn	22.0	20.13	cn	ng/L		92	70 - 130	5	30
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	<0.893	cn	22.0	23.64	cn	ng/L		108	52 - 131	6	30
Perfluoro-2-(perfluoroethoxy)propionic acid	5.71	F1 cn	22.0	33.86	cn	ng/L		128	70 - 130	5	30
Perfluoropentanoic acid	59.4	cn	22.0	77.77	cn	ng/L		83	72 - 139	8	30
Perfluoropentanesulfonic acid	<0.447	cn	20.6	21.32	cn	ng/L		103	71 - 136	6	30
6:2 Fluorotelomer sulfonic acid	<1.79	cn	20.8	21.49	cn	ng/L		103	57 - 137	6	30
8:2 Fluorotelomer carboxylic acid	<0.357	cn	22.0	22.17	cn	ng/L		101	70 - 130	7	30
Nafion Byproduct 1 (Nafion BP1)	<2.68	F1 *- cn	22.0	4.821	J F1 cn	ng/L		22	70 - 130	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NETFOSAA)	<0.447	cn	22.0	19.72	cn	ng/L		90	54 - 134	9	30

QC Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: 410-65313-6 MSD
Matrix: Water
Analysis Batch: 202386

Client Sample ID: SP-8
Prep Type: Total/NA
Prep Batch: 201569

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Perfluorohexanoic acid	8.77	cn	22.0	29.90	cn	ng/L		96	66 - 137	2	30
Perfluorododecanoic acid	<0.447	cn	22.0	19.78	cn	ng/L		90	63 - 140	2	30
N-methylperfluorooctane sulfonamide (NMeFOSA)	<0.893	cn	22.0	26.84	cn	ng/L		122	49 - 141	8	30
Perfluorooctanoic acid	3.82	cn	22.0	22.50	cn	ng/L		85	65 - 136	1	30
Perfluorodecanoic acid	<0.447	cn	22.0	19.56	cn	ng/L		89	63 - 137	2	30
Perfluorodecanesulfonic acid	<0.447	cn	21.2	23.32	cn	ng/L		110	61 - 134	7	30
Perfluorohexanesulfonic acid	3.56	cn	20.1	23.19	cn	ng/L		98	60 - 128	8	30
3-Perfluoropropylpropanoic acid (3:3 FTCA)	<0.268	cn	22.0	24.12	cn	ng/L		110	70 - 130	9	30
Perfluorobutanoic acid	1070	E cn	22.0	1108	E 4 cn	ng/L		189	62 - 156	1	30
Perfluorobutanesulfonic acid	11.9	cn	19.5	29.07	cn	ng/L		88	65 - 132	1	30
Perfluoroheptanoic acid	3.53	I cn	22.0	24.66	cn	ng/L		96	66 - 141	4	30
Perfluoroheptanesulfonic acid	<0.447	cn	20.9	20.28	cn	ng/L		97	67 - 135	2	30
Perfluorononanoic acid	<0.447	cn	22.0	20.60	cn	ng/L		94	65 - 140	2	30
Perfluorotetradecanoic acid	<0.447	cn	22.0	21.43	cn	ng/L		97	64 - 141	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	49.1	F1 cn	22.0	83.35	F1 cn	ng/L		156	70 - 130	2	30
8:2 Fluorotelomer sulfonic acid	<0.893	cn	21.1	21.75	cn	ng/L		103	56 - 140	10	30
Perfluoro(3,5-dioxahexanoic) acid (PFO2HxA)	<0.179	F1 cn	22.0	31.37	F1 cn	ng/L		143	70 - 130	2	30
Perfluoro(3,5,7-trioxaoctanoic) acid (PFO3OA)	<0.179	cn	22.0	28.08	cn	ng/L		128	70 - 130	3	30
Perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA)	<0.268	F1 cn	22.0	29.80	F1 cn	ng/L		136	70 - 130	1	30
Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	<1.79	cn	22.0	28.55	cn	ng/L		130	70 - 130	0	30
N-ethylperfluorooctane sulfonamide (NEtFOSA)	<0.893	cn	22.0	23.69	cn	ng/L		108	50 - 136	10	30
Perfluoropropionic Acid (PFPrA)	1960	E cn	22.0	2064	E 4 cn	ng/L		452	70 - 130	0	30
Perfluoropropanesulfonic acid	2.69	F1 cn	20.1	29.29	F1 cn	ng/L		132	70 - 130	2	30
6:2 Fluorotelomer carboxylic acid	<0.357	cn	22.0	19.18	cn	ng/L		87	70 - 130	11	30
10:2 Fluorotelomer carboxylic acid	<0.447	cn	22.0	20.40	cn	ng/L		93	70 - 130	2	30
Perfluoro-2-methoxyacetic acid (PFMOAA)	5.65	cn	22.0	33.38	cn	ng/L		126	70 - 130	0	30
Perfluorohexadecanoic acid	<0.893	cn	22.0	23.86	cn	ng/L		109	52 - 149	5	30
Perfluorononanesulfonic acid	<0.447	cn	21.1	21.23	cn	ng/L		101	67 - 137	5	30
EVE Acid	<2.68	F1 *- cn	22.0	8.037	J F1 cn	ng/L		37	70 - 130	2	30
8:2 Fluorotelemer unsaturated acid	<0.179	cn	22.0	24.57	cn	ng/L		112	70 - 130	6	30
6:2 Fluorotelemer unsaturated acid	<0.179	cn	22.0	24.16	cn	ng/L		110	70 - 130	1	30
10:2 Fluorotelemer unsaturated acid	<0.179	cn	22.0	27.23	cn	ng/L		124	70 - 130	1	30
Perfluorotridecanoic acid	<0.447	cn	22.0	22.99	cn	ng/L		105	58 - 146	2	30
Hydro-PS Acid	<0.179	cn	22.0	20.40	cn	ng/L		93	70 - 130	5	30
Perfluorooctanesulfonamide	<0.447	cn	22.0	23.86	cn	ng/L		109	55 - 130	7	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.447	cn	20.4	18.80	cn	ng/L		92	52 - 134	6	30
4:2 Fluorotelomer sulfonic acid	<0.447	cn	20.5	21.41	cn	ng/L		104	59 - 130	1	30

QC Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: 410-65313-6 MSD
Matrix: Water
Analysis Batch: 202386

Client Sample ID: SP-8
Prep Type: Total/NA
Prep Batch: 201569

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.447	cn	20.4	21.37	cn	ng/L		105	45 - 134	1	30
Hydro-EVE Acid	<0.179	cn	22.0	28.52	cn	ng/L		130	70 - 130	4	30
Perfluorododecanesulfonic acid	<0.447	cn	21.3	23.24	cn	ng/L		109	54 - 136	3	30
Perfluoro-4-isopropoxybutanoic acid (PFIPBA)	1.41	J cn	22.0	29.37	cn	ng/L		127	70 - 130	3	30
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	<0.268	F1 *- cn	22.0	12.27	F1 cn	ng/L		56	70 - 130	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	19.8	cn	22.0	41.04	cn	ng/L		97	70 - 130	2	30
3-Perfluoropentylpropanoic acid (5:3 FTCA)	<0.179	cn	22.0	19.88	cn	ng/L		90	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.447	cn	20.8	19.99	cn	ng/L		96	49 - 158	6	30
MTP	<1.79	cn	22.0	17.86	cn	ng/L		81	70 - 130	5	30

Isotope Dilution	%Recovery	MSD Qualifier	MSD Limits
d5-NEtFOSAA	100	cn	37 - 164
d3-NMeFOSAA	95	cn	32 - 151
13C3 HFPO-DA	118	cn	20 - 153
d7-N-MeFOSE-M	103	cn	10 - 143
d9-N-EtFOSE-M	103	cn	10 - 142
M2-6:2 FTS	88	cn	29 - 189
M2-8:2 FTS	92	cn	34 - 182
13C3 PFBS	136	cn	19 - 178
M2-4:2 FTS	107	cn	20 - 187
13C5 PFHxA	102	cn	31 - 142
13C9 PFNA	107	cn	47 - 136
13C6 PFDA	99	cn	47 - 128
13C7 PFUnA	101	cn	40 - 135
13C3 PFHxS	100	cn	32 - 145
13C2-PFDODA	103	cn	28 - 136
d5-NEtPFOSA	60	cn	10 - 108
d3-NMePFOSA	60	cn	10 - 107
13C2-2-Perfluorohexylethanoic acid	143	cn	50 - 150
13C2-2-Perfluorooctylethanoic acid	138	cn	50 - 150
13C2-2-Perfluorodecylethanoic acid	146	cn	50 - 150
13C2-2H-Perfluoro-2-octenoic acid	77	cn	50 - 150
13C2-2H-Perfluoro-2-decenoic acid	80	cn	50 - 150
13C2-2H-Perfluoro-2-dodecenoic acid	76	cn	50 - 150
13C4 PFBA	99	cn	41 - 132
13C5 PFPeA	135	cn	33 - 155
13C4 PFHpA	103	cn	30 - 144
13C8 PFOA	99	cn	49 - 127
13C8 PFOS	99	cn	49 - 126

QC Sample Results

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: 410-65313-6 MSD
Matrix: Water
Analysis Batch: 202386

Client Sample ID: SP-8
Prep Type: Total/NA
Prep Batch: 201569

<i>Isotope Dilution</i>	<i>MSD MSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C8 FOSA	96	cn	10 - 143
13C2 PFTeDA	99	cn	10 - 144

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QC Association Summary

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

LCMS

Prep Batch: 201569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-65313-1	SP-3	Total/NA	Water	3535	
410-65313-1 - DL	SP-3	Total/NA	Water	3535	
410-65313-2 - DL	SP-4	Total/NA	Water	3535	
410-65313-2	SP-4	Total/NA	Water	3535	
410-65313-3	Trip Blank	Total/NA	Water	3535	
410-65313-4	SP-6	Total/NA	Water	3535	
410-65313-5	SP-7	Total/NA	Water	3535	
410-65313-6 - DL	SP-8	Total/NA	Water	3535	
410-65313-6	SP-8	Total/NA	Water	3535	
410-65313-7	SP-10	Total/NA	Water	3535	
410-65313-7 - DL	SP-10	Total/NA	Water	3535	
MB 410-201569/1-A	Method Blank	Total/NA	Water	3535	
LCS 410-201569/3-A	Lab Control Sample	Total/NA	Water	3535	
410-65313-6 MS	SP-8	Total/NA	Water	3535	
410-65313-6 MSD	SP-8	Total/NA	Water	3535	

Analysis Batch: 202386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-65313-1	SP-3	Total/NA	Water	537 IDA	201569
410-65313-2	SP-4	Total/NA	Water	537 IDA	201569
410-65313-3	Trip Blank	Total/NA	Water	537 IDA	201569
410-65313-4	SP-6	Total/NA	Water	537 IDA	201569
410-65313-5	SP-7	Total/NA	Water	537 IDA	201569
410-65313-6	SP-8	Total/NA	Water	537 IDA	201569
410-65313-7	SP-10	Total/NA	Water	537 IDA	201569
MB 410-201569/1-A	Method Blank	Total/NA	Water	537 IDA	201569
LCS 410-201569/3-A	Lab Control Sample	Total/NA	Water	537 IDA	201569
410-65313-6 MS	SP-8	Total/NA	Water	537 IDA	201569
410-65313-6 MSD	SP-8	Total/NA	Water	537 IDA	201569

Analysis Batch: 203125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-65313-1 - DL	SP-3	Total/NA	Water	537 IDA	201569
410-65313-2 - DL	SP-4	Total/NA	Water	537 IDA	201569
410-65313-6 - DL	SP-8	Total/NA	Water	537 IDA	201569
410-65313-7 - DL	SP-10	Total/NA	Water	537 IDA	201569

Lab Chronicle

Client: Eastern Research Group, Inc.
 Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-3

Lab Sample ID: 410-65313-1

Date Collected: 11/30/21 13:50

Matrix: Water

Date Received: 12/02/21 11:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201569	12/05/21 08:06	RC3V	ELLE
Total/NA	Analysis	537 IDA		1	202386	12/07/21 18:44	UCD3	ELLE
Total/NA	Prep	3535	DL		201569	12/05/21 08:06	RC3V	ELLE
Total/NA	Analysis	537 IDA	DL	10	203125	12/09/21 08:46	I5JH	ELLE

Client Sample ID: SP-4

Lab Sample ID: 410-65313-2

Date Collected: 11/30/21 13:50

Matrix: Water

Date Received: 12/02/21 11:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201569	12/05/21 08:06	RC3V	ELLE
Total/NA	Analysis	537 IDA		1	202386	12/07/21 18:55	UCD3	ELLE
Total/NA	Prep	3535	DL		201569	12/05/21 08:06	RC3V	ELLE
Total/NA	Analysis	537 IDA	DL	10	203125	12/09/21 08:57	I5JH	ELLE

Client Sample ID: Trip Blank

Lab Sample ID: 410-65313-3

Date Collected: 12/01/21 18:00

Matrix: Water

Date Received: 12/02/21 11:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201569	12/05/21 08:06	RC3V	ELLE
Total/NA	Analysis	537 IDA		1	202386	12/07/21 19:06	UCD3	ELLE

Client Sample ID: SP-6

Lab Sample ID: 410-65313-4

Date Collected: 12/01/21 10:10

Matrix: Water

Date Received: 12/02/21 11:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201569	12/05/21 08:06	RC3V	ELLE
Total/NA	Analysis	537 IDA		1	202386	12/07/21 19:17	UCD3	ELLE

Client Sample ID: SP-7

Lab Sample ID: 410-65313-5

Date Collected: 12/01/21 10:40

Matrix: Water

Date Received: 12/02/21 11:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201569	12/05/21 08:06	RC3V	ELLE
Total/NA	Analysis	537 IDA		1	202386	12/07/21 19:28	UCD3	ELLE

Client Sample ID: SP-8

Lab Sample ID: 410-65313-6

Date Collected: 12/01/21 12:20

Matrix: Water

Date Received: 12/02/21 11:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201569	12/05/21 08:06	RC3V	ELLE
Total/NA	Analysis	537 IDA		1	202386	12/07/21 19:39	UCD3	ELLE

Lab Chronicle

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Client Sample ID: SP-8

Date Collected: 12/01/21 12:20

Date Received: 12/02/21 11:08

Lab Sample ID: 410-65313-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	DL		201569	12/05/21 08:06	RC3V	ELLE
Total/NA	Analysis	537 IDA	DL	10	203125	12/09/21 09:08	I5JH	ELLE

Client Sample ID: SP-10

Date Collected: 12/01/21 16:15

Date Received: 12/02/21 11:08

Lab Sample ID: 410-65313-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			201569	12/05/21 08:06	RC3V	ELLE
Total/NA	Analysis	537 IDA		1	202386	12/07/21 20:13	UCD3	ELLE
Total/NA	Prep	3535	DL		201569	12/05/21 08:06	RC3V	ELLE
Total/NA	Analysis	537 IDA	DL	10	203125	12/09/21 09:19	I5JH	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: Eastern Research Group, Inc.
 Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	200027	01-31-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
537 IDA	3535	Water	10:2 Fluorotelemer unsaturated acid
537 IDA	3535	Water	10:2 Fluorotelomer carboxylic acid
537 IDA	3535	Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
537 IDA	3535	Water	1H,1H,2H,2H-Perfluorododecane sulfonic acid (10:2 FTS)
537 IDA	3535	Water	3-Perfluoroheptylpropanoic acid (7:3 FTCA)
537 IDA	3535	Water	3-Perfluoropentylpropanoic acid (5:3 FTCA)
537 IDA	3535	Water	3-Perfluoropropylpropanoic acid (3:3 FTCA)
537 IDA	3535	Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
537 IDA	3535	Water	4:2 Fluorotelomer sulfonic acid
537 IDA	3535	Water	6:2 Fluorotelemer unsaturated acid
537 IDA	3535	Water	6:2 Fluorotelomer carboxylic acid
537 IDA	3535	Water	6:2 Fluorotelomer sulfonic acid
537 IDA	3535	Water	8:2 Fluorotelemer unsaturated acid
537 IDA	3535	Water	8:2 Fluorotelomer carboxylic acid
537 IDA	3535	Water	8:2 Fluorotelomer sulfonic acid
537 IDA	3535	Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
537 IDA	3535	Water	EVE Acid
537 IDA	3535	Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)
537 IDA	3535	Water	Hydro-EVE Acid
537 IDA	3535	Water	Hydrolyzed PSDA
537 IDA	3535	Water	Hydro-PS Acid
537 IDA	3535	Water	MTP
537 IDA	3535	Water	Nafion Byproduct 1 (Nafion BP1)
537 IDA	3535	Water	N-ethylperfluorooctane sulfonamide (NEtFOSA)
537 IDA	3535	Water	N-ethylperfluorooctane sulfonamidoethanol (NEtFOSE)
537 IDA	3535	Water	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537 IDA	3535	Water	N-methylperfluorooctane sulfonamide (NMeFOSA)
537 IDA	3535	Water	N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)
537 IDA	3535	Water	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537 IDA	3535	Water	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
537 IDA	3535	Water	NVHOS
537 IDA	3535	Water	Perfluoro (2-ethoxyethane) sulfonic acid
537 IDA	3535	Water	Perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA)

Accreditation/Certification Summary

Client: Eastern Research Group, Inc.
 Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
537 IDA	3535	Water	Perfluoro(3,5,7-trioxaoctanoic) acid (PFO3OA)
537 IDA	3535	Water	Perfluoro(3,5-dioxahexanoic) acid (PFO2HxA)
537 IDA	3535	Water	Perfluoro-2-(perfluoroethoxy)propionic acid
537 IDA	3535	Water	Perfluoro-2-methoxyacetic acid (PFMOAA)
537 IDA	3535	Water	Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid
537 IDA	3535	Water	Perfluoro-3-methoxypropanoic acid (PFMPA)
537 IDA	3535	Water	Perfluoro-3-methoxypropanoic acid (PMPA)
537 IDA	3535	Water	Perfluoro-4-ethylcyclohexanesulfonic acid
537 IDA	3535	Water	Perfluoro-4-isopropoxybutanoic acid (PFIPoBA)
537 IDA	3535	Water	Perfluoro-4-methoxybutanoic acid (PFMBA)
537 IDA	3535	Water	Perfluorobutanesulfonic acid
537 IDA	3535	Water	Perfluorobutanoic acid
537 IDA	3535	Water	Perfluorodecanesulfonic acid
537 IDA	3535	Water	Perfluorodecanoic acid
537 IDA	3535	Water	Perfluorododecanesulfonic acid
537 IDA	3535	Water	Perfluorododecanoic acid
537 IDA	3535	Water	Perfluoroheptanesulfonic acid
537 IDA	3535	Water	Perfluoroheptanoic acid
537 IDA	3535	Water	Perfluorohexadecanoic acid
537 IDA	3535	Water	Perfluorohexanesulfonic acid
537 IDA	3535	Water	Perfluorohexanoic acid
537 IDA	3535	Water	Perfluorononanesulfonic acid
537 IDA	3535	Water	Perfluorononanoic acid
537 IDA	3535	Water	Perfluorooctadecanoic acid
537 IDA	3535	Water	Perfluorooctanesulfonamide
537 IDA	3535	Water	Perfluorooctanesulfonic acid
537 IDA	3535	Water	Perfluorooctanoic acid
537 IDA	3535	Water	Perfluoropentanesulfonic acid
537 IDA	3535	Water	Perfluoropentanoic acid
537 IDA	3535	Water	Perfluoropropanesulfonic acid
537 IDA	3535	Water	Perfluoropropionic Acid (PFPrA)
537 IDA	3535	Water	Perfluorotetradecanoic acid
537 IDA	3535	Water	Perfluorotridecanoic acid
537 IDA	3535	Water	Perfluoroundecanoic acid
537 IDA	3535	Water	R-EVE
537 IDA	3535	Water	R-PSDA
537 IDA	3535	Water	R-PSDCA

Method Summary

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Method	Method Description	Protocol	Laboratory
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE
3535	Solid-Phase Extraction (SPE)	SW846	ELLE

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300



Sample Summary

Client: Eastern Research Group, Inc.
Project/Site: Groundwater PFAS - TO2

Job ID: 410-65313-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-65313-1	SP-3	Water	11/30/21 13:50	12/02/21 11:08
410-65313-2	SP-4	Water	11/30/21 13:50	12/02/21 11:08
410-65313-3	Trip Blank	Water	12/01/21 18:00	12/02/21 11:08
410-65313-4	SP-6	Water	12/01/21 10:10	12/02/21 11:08
410-65313-5	SP-7	Water	12/01/21 10:40	12/02/21 11:08
410-65313-6	SP-8	Water	12/01/21 12:20	12/02/21 11:08
410-65313-7	SP-10	Water	12/01/21 16:15	12/02/21 11:08

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Chain of Custody Record



410-65313 Chain of Custody

Client Information			Sampler <i>Debra Falatko</i>	Lab PM Williams, Marrassa C	OC No 10-39168-12262.1																															
Client Contact: Michelle Spiezio			Phone <i>703-785-4781</i>	E-Mail Marrassa.Williams@eurofinset.com	Page <i>Page 1 of 3 Page 1 of 1</i>																															
Company Eastern Research Group, Inc.			PWSID		Analysis Requested																															
Address 14555 Avion Parkway Suite 200			Due Date Requested:		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">Preservation Codes:</td> </tr> <tr> <td>A - HCL</td> <td>M - Hexane</td> </tr> <tr> <td>B - NaOH</td> <td>N - None</td> </tr> <tr> <td>C - Zn Acetate</td> <td>O - AsNaO2</td> </tr> <tr> <td>D - Nitric Acid</td> <td>P - Na2O4S</td> </tr> <tr> <td>E - NaHSO4</td> <td>Q - Na2SO3</td> </tr> <tr> <td>F - MeOH</td> <td>R - Na2S2O3</td> </tr> <tr> <td>G - Amchlor</td> <td>S - H2SO4</td> </tr> <tr> <td>H - Ascorbic Acid</td> <td>T - TSP Dodecahydrate</td> </tr> <tr> <td>I - Ice</td> <td>U - Acetone</td> </tr> <tr> <td>J - DI Water</td> <td>V - MCAA</td> </tr> <tr> <td>K - EDTA</td> <td>W - pH 4-5</td> </tr> <tr> <td>L - EDA</td> <td>Z - other (specify)</td> </tr> <tr> <td colspan="2">Other:</td> </tr> </table>				Preservation Codes:		A - HCL	M - Hexane	B - NaOH	N - None	C - Zn Acetate	O - AsNaO2	D - Nitric Acid	P - Na2O4S	E - NaHSO4	Q - Na2SO3	F - MeOH	R - Na2S2O3	G - Amchlor	S - H2SO4	H - Ascorbic Acid	T - TSP Dodecahydrate	I - Ice	U - Acetone	J - DI Water	V - MCAA	K - EDTA	W - pH 4-5	L - EDA	Z - other (specify)	Other:	
Preservation Codes:																																				
A - HCL	M - Hexane																																			
B - NaOH	N - None																																			
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D - Nitric Acid	P - Na2O4S																																			
E - NaHSO4	Q - Na2SO3																																			
F - MeOH	R - Na2S2O3																																			
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K - EDTA	W - pH 4-5																																			
L - EDA	Z - other (specify)																																			
Other:																																				
City Chantilly			TAT Requested (days): <i>15 business days</i>																																	
State, Zip VA, 20151-1102			Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No																																	
Phone 703-633-1717(Tel)			PO # <i>0453.12.001-13</i>																																	
Email Michelle.Spiezio@erg.com			Purchase Order Requested																																	
Project Name Groundwater PFAS - TO2			WO #																																	
Site			Project # 41008694																																	
			SSOW#																																	
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filled Sample (Y or No)	PFC_IDA - PFAS, 70 compounds	Total Number of Containers	Special Instructions/Note:																												
Preservation Code: <input checked="" type="checkbox"/> N																																				
<i>SP-3</i>	<i>11/30/21</i>	<i>1350</i>	<i>G</i>	<i>Water</i>	<i>N</i>	<i>X</i>		<i>2 bottles</i>																												
<i>SP-4</i>	<i>11/30/21</i>	<i>1350</i>	<i>G</i>	<i>Water</i>	<i>N</i>	<i>X</i>		<i>2 bottles</i>																												
<i>Trip blank</i>	<i>12/1/21</i>	<i>1800</i>	<i>G</i>	<i>Water</i>	<i>N</i>	<i>X</i>		<i>2 bottles</i>																												
<i>SP-6</i>	<i>12/1/21</i>	<i>1010</i>	<i>G</i>	<i>Water</i>	<i>N</i>	<i>X</i>		<i>2 bottles</i>																												
<i>SP-7</i>	<i>12/1/21</i>	<i>1040</i>	<i>G</i>	<i>Water</i>	<i>N</i>	<i>X</i>		<i>2 bottles</i>																												
<i>SP-8</i>	<i>12/1/21</i>	<i>1220</i>	<i>G</i>	<i>Water</i>	<i>N</i>	<i>X</i>		<i>6 bottles</i>																												
<i>SP-10</i>	<i>12/1/21</i>	<i>1615</i>	<i>G</i>	<i>Water</i>	<i>N</i>	<i>X</i>		<i>2 bottles</i>																												
				<i>Water</i>																																
				<i>Water</i>																																
				<i>Water</i>																																
				<i>Water</i>																																
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																															
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input checked="" type="checkbox"/> Archive For <u>1</u> Months																															
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements																															
Empty Kit Relinquished by:			Date:	Time	Method of Shipment																															
Relinquished by <i>K. J. Mint</i>			Date/Time <i>11-23-21 13:48</i>	Company <i>ERHE</i>	Received by		Date/Time	Company																												
Relinquished by <i>[Signature]</i>			Date/Time <i>12/1/21 1800</i>	Company <i>ERG</i>	Received by		Date/Time	Company																												
Relinquished by			Date/Time	Company	Received by <i>[Signature]</i>		Date/Time <i>12/2/21 1108</i>	Company <i>[Signature]</i>																												
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Custody Seal No.:		Cooler Temperature(s)°C and Other Remarks <i>0.6</i>																															



Login Sample Receipt Checklist

Client: Eastern Research Group, Inc.

Job Number: 410-65313-1

Login Number: 65313

List Number: 1

Creator: Reiff, Nicole L

List Source: Eurofins Lancaster Laboratories Env, LLC

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	True	